# IPitomy IP550
# SIP IP Phone
# User Guide

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# Chapter 1

# Introduction

*This Chapter provides an overview of the IP Phone features and capabilities.*

The IP Phone is a device that provides voice communication over IP network.

## IP Phone Features

The IP Phone incorporates many advanced features, designed to offer sophisticated functions together with easy operation. Key features of the IP phone include:

- 128 x 64 pixel based LCD with backlight
- 5 status icons indicating No-Service, DND, Call Forward, Conference, and Voice Mail
- Manage four lines supporting four registrations and up to four simultaneous calls
- Automatic provisioning via TFTP
- Secondary SIP servers support
- Dynamic IP address via DHCP client or statically configured
- NAT traversal support (UPnP)
- DTMF relay through RFC2833 or SIP INFO method
- Multi-country call-progress tone sets provided
- Full-duplex hands-free operation
- Configuration through keypad or integrated web interface
- Asterisk PBX features support
- Maintaining call records for 10 dialed calls, and 10 missed calls
- Up to 200 records of personal phone book
- Dialing from call records
- Six ring tones supported
- Adjustable voice volume
- Message waiting indicator
- Two 10/100Base-T Ethernet switch interfaces connect to LAN and a PC

## Package Contents

The following items should be included:

- The IP Phone
- Stand
- Handset
- Spiral handset connecting cable
- Power Adapter
- One Ethernet UTP cable

If any of the above items are damaged or missing, please contact your dealer immediately.

## Chapter 2

# Installation

*This Chapter covers the physical installation of the IP Phone.*

## Requirements

- Network cables. Use standard 10/100BaseT network (UTP) cables with RJ45 connectors.
- For Internet Access, an Internet Access account from ISPs, and either a DSL or Cable modem is required.

## Procedure

### 1. Connect the Handset

Connect the handset to the jack on the left-hand side of the IP phone.

### 2. Connect to the Network

Use standard Ethernet cable to connect the network to the "LAN" port on the IP Phone. Connect your PC to the "PC" port on the back of the IP Phone, as shown in the diagram below.

### 3. Power Up

Connect the supplied power adapter to the IP Phone and power up.
Use only the power adapter provided. Using a different one may cause hardware damage.

**Figure 1: Connecting IP Phone and Your PC**

# Chapter 3

# Operation

*This Chapter details the operation of the IP Phone.*

**Note!**

**Key sequences of activating call features described in this Chapter is based on factory default settings.**

## Phone Faceplate

**Figure 2: IP Phone Faceplate**

### Dialpad, Navigation, Soft, and Programmable Keys

| | | |
|---|---|---|
| 1 | **0~9, *, #, A~Z, a~z** | Normal digits. |
| 2 | **Navigation Keys** | Navigation buttons: Up, Down, Left, and Right. |
| 4 | **Soft Keys** | Customer-definable keys with text display and LED |
| 5 | **Programmable Keys** | Customer-definable keys with LED |

## Function Keys

| | | |
|---|---|---|
| 1 | **Menu** | Provide access to the main menu in idle mode. |
| 2 | **Phonebook** | Provide access to phone book menu. |
| 3 | **Transfer** | Initiate call transfer. |
| 4 | **Service** | Access to Dialed and Missed call list |
| 5 | **Hang Up** | Terminate an active session |
| 6 | **Redial** | Browse recently 10 outgoing call numbers. |
| 7 | **Conference** | Enable 3-way conference call. |
| 8 | **Hold** | Hold the current call for initiating second call or switch between calls. |
| 9 | **Vol Down** | Decrease the volume of speaker, handset and ringer. |
| 10 | **Vol Up** | Increase the volume of speaker, handset and ringer. |
| 11 | **Speaker/Headset** | Toggle between handsfree and headset modes. |
| 12 | **Mute** | Disable and re-enable the microphone. |

## LED Indicators

| | | |
|---|---|---|
| 17 | **MWI/ALERT** | **Fast Flashing** – An incoming call is ringing to the phone.<br>**Slow Flashing** – Voice messages left in voice mail server. |
| 18 | **Speaker/Headset** | **On** – in handsfree mode.<br>**Slow Flashing** – in headset mode. |
| 19 | **Hold** | **On** – A call is on hold.<br>**Off** – No call is on hold.. |
| 20 | **Mute** | **On** – Mute is enabled.<br>**Off** – Mute is not enabled. |
| 21 | **L1~L4** | **On – Line is active**<br>**Slow Flashing – Line in on hold**<br>**Off – Line is available** |

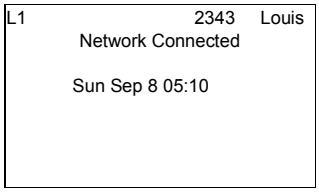
## LCD Icons

| | | |
|---|---|---|
| 22 | **No Serv** | **When lit, indicating the current Line is not registered, "No Service"** |
| 23 | **DND** | **When lit, indicating the phone rejects any incoming call**. |
| 24 | **FWD** | **When lit, Call forward feature is enabled for the current Line.** |

| | | |
|---|---|---|
| **25** | **3-person symbol** | **When lit, indicating the phone is under 3-way conference.** |
| **26** | **Mail symbol** | **When lit, indicating the Line has voicemail(s).** |

## Standby Mode

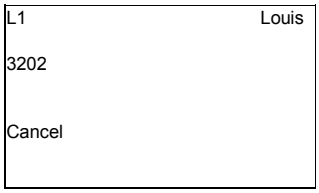
In standby (idle) mode, the IP Phone displays the line number and extension number/user name in the first line of the LCD panel, the network status is displayed in the second line. Date and time information is displayed in line 4. Users can make and receive calls only when the IP Phone has successfully registered to a SIP server.




## Making a Telephone Call

To place a call:

1. Key in the phone number you wish to call.
2. Pick up the **HANDSET** or press **SPEAKER** to dial the number.




You can also pick up the **HANDSET** or press the **SPEAKER** first then dial the number.

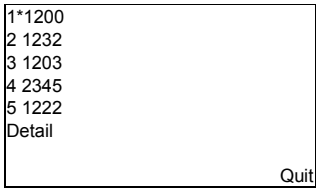
## Dialing from the Call List

The IP Phone stores the last 10 called and 10 missed calls. Each of the stored numbers is represented by a code from 1 to 10, with 10 representing the most recent number. You can access the stored phone numbers by pressing the navigation key and press soft key 1 to check the details of the number.

### Last Number Redialing

To redial one of 10 most recently called numbers:

1. Press **Redial**, the LCD panel shows the first 5 most recently called numbers of 10.




2. Press the up/down navigation key to the desired number , user may click all the way downwards with the up/down navigation key to get the 10th number. .
3. Press Detail for checking the chosen account.
4. Press Dial or Quit to dial or quit to the upper menu. The" Dial" or "Quit to dial" function has to be first defined in soft keys settings in the webpage. ( See manual Page 21)

To quit the redial menu, press **Menu** or Quit soft key.

### Calling From Missed Call List

To call one of the 10 last missed calls:

1. Press **Service** button to check the missed call list.
2. Press the defined associated soft keys to make call or quit.

For more detailed operation information, please refer to Appendix for MMI specifications.

### Calling From Called List

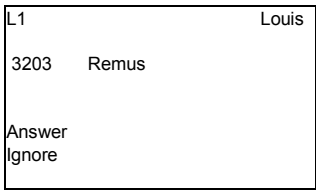
To call one of the 10 last called list:

1. Press **Service** button to check the called list.
2. Press the defined associated soft keys to make call or quit checking.

For more detailed operation information, please refer to Appendix for MMI specifications.

## Answering a Call

When someone calls you, the caller's name and number are displayed on the third line of the LCD panel. To answer the call, simply pick up the **HANDSET** or press Speaker/Headset button.




For more detailed operation information, please refer to Appendix for MMI specifications.

## Muting a Call

You may mute the microphone during a call by pressing **Mute** key. To re-enable the microphone, press **Mute** key again.

When mute function is enabled, the MUTE LED is turned ON.

## Volume Adjustment

The volume for the receiver and speaker can be changed during a call. Use **Volume Up** and **Volume Down** keys to adjust the volume.

## Changing Ringer Volume

You may adjust the ring volume when the IP Phone is in standby mode. Use **Volume Up** and **Volume Down** keys to adjust the volume.

## Transferring a Call

There are two types of transferring calls, blind transfer and attended transfer. To transfer a call blindly, press **Transfer** key and dial the number to which the call will be transferred to, then press the Transfer key again.

To do attended transfer, press **Transfer** key and dial the number to which you want to transfer the call. After the party answers the call, press **Transfer** key again to transfer the call.

For more detailed operation information, please refer to Appendix for MMI specifications.

## Making the Second Call

To make the second call:

1. Press **Hold** key. The first call will be put on hold.
2. Press another Line key and dial the second number when you hear the dial tone.

After the second party answers the call, you may switch between the two calls by pressing the associated Line key.

For more detailed operation information, please refer to Appendix for MMI specifications.

### Switching Between Two Calls

To switch back and forth between the first and the second call, press the associated **Line** key.

For more detailed operation information, please refer to Appendix for MMI specifications.

### 3-Way Conferencing

To start a 3-way conference, you'll need to press **Conference** key to hold the 1st call and make another call. When the 2nd call is established, press **Conference** key again for 3-way conference.

For more detailed operation information, please refer to Appendix for MMI specifications.

## Using Speed Dial

The IP Phone provides user-specific speed dial feature via both soft keys and programmable keys.

To set the speed dial number:

1. Set up in the web page, either in Softkeys 1~10, Softkeys 11~20, or Programmable Keys page, the correct type, label, value and line.
2. Press the associated soft or programmable key.
3. The call can be made to the value via line specified.

For more detailed operation information, please refer to Chapter 5.

## Do Not Disturb

The IP Phone provides Do Not Disturb feature via soft or programmable keys. Unlike many other features provided in the phone, the DND is provided as a phone feature. That is, once enabled or disabled, the phone will reject or receive incoming calls.

To set the DND:

1. Set up in the web page, either in Softkeys 1~10, Softkeys 11~20, or Programmable Keys page, the correct type and the states.
2. Press the associated soft or programmable key.
3. The DND feature is enabled or disabled.

## Using Headset

When Speaker key is pressed twice, handsfree will be replaced by headset automatically.

### Placing Calls Using Headset

Press **Speaker** key twice will automatically seize a line just like user goes off-hook.

## Switch Audio Between Headset and Speaker

Pressing **Speaker** key while in headset mode switches the audio paths from headset to speaker.

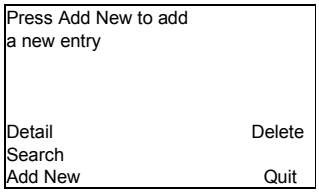
Pressing **Speaker** key while in speaker mode switches the audio paths from speaker to headset.

## Terminating Calls Using Headset

Pressing **Hang Up** key when conversation is in progress will end the call.

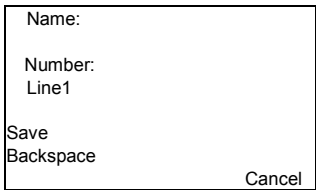
# Using Phone Book

Pressing **Phonebook** key to enter phone book menu.




## Create Contacts

Press Add New to start editing. Use keypad to input name and number.

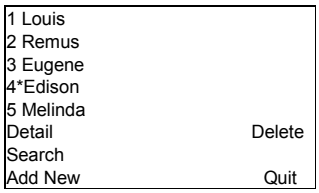



Use Navigator up/down keys to choose the field to enter. Use Navigator left/right keys to choose if it is either Home/ Mobile/Office number of the added name. Press Save if you want to record the entries.

For more operational details, please refer to Appendix C for MMI specifications.

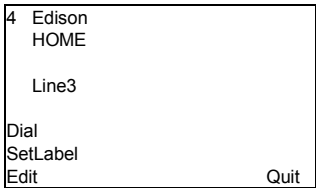
## Delete from List

Choose the item you want to delete (the one with a leading *), and press Delete key.




## Call from List

Select the item you want to call (the one with a leading *), press Detail key, and then press Dial




For more operational details, please refer to Appendix C for MMI specifications.

## Chapter 4

# Using the Menu

*The LCD panel provides functions that allow you to read and modify IP Phone's settings. You can navigate through the menu and access these functions by using the keypad. Please note that if the settings are line-related parameters, only **Line 1** is configured.*

## Accessing Menu Functions

The IP Phone implements a menu tree that allows you to display and modify the current settings. Each sub-menu in the tree is represented by a number, and each active item is led by a *. To access a sub-menu, press the navigation key to choose, and press associated softkey to examine/change the settings.

The **Menu** key allows you to enter the main menu. Pressing this key in menu mode moves back to the main menu.

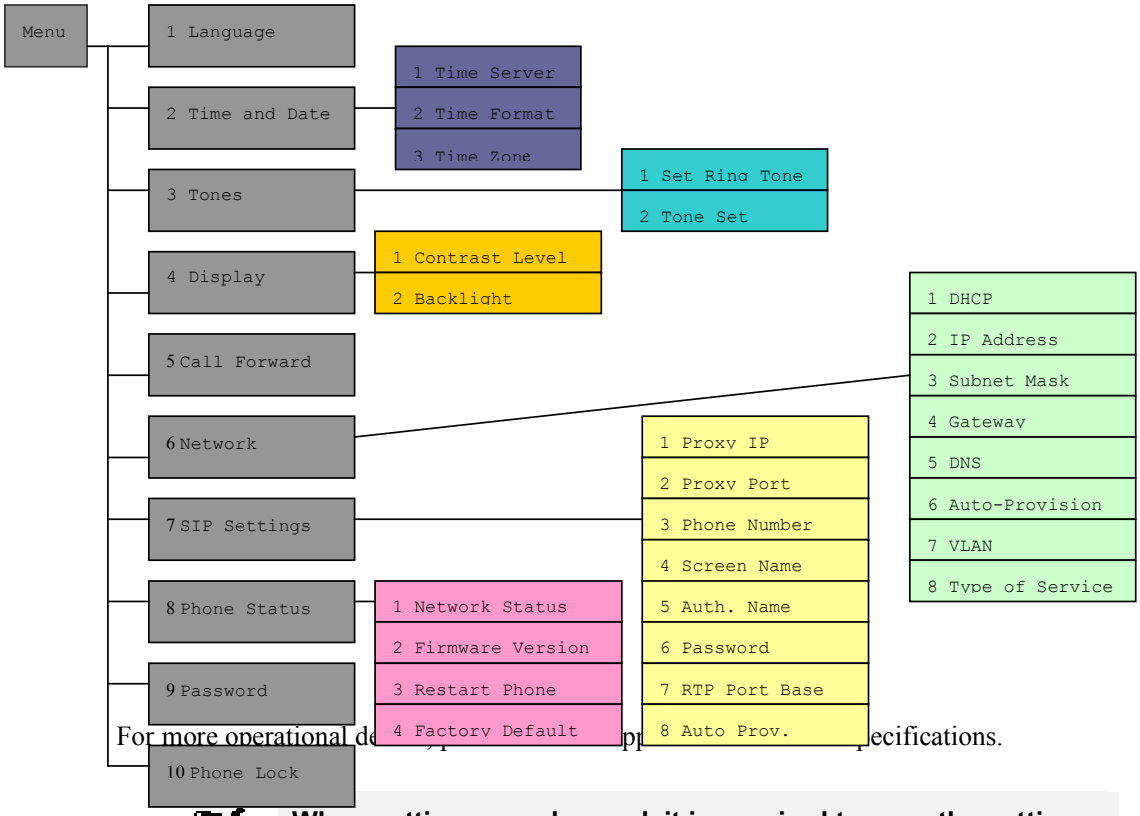
To access a sub-menu, press the navigation key and the soft key(s).

## Entering IP Address

Use the numeric keys to enter IP address and net mask. Use **Dot'.'** Soft key to input "**.**" (dot).

For more operational details, please refer to Appendix C MMI specifications.

## Menu Tree




For more operational de[illegible] pp[illegible]ecifications.

**When settings are changed, it is required to save the settings and reboot IP Phone.**

# Chapter 5

# Web Setup

*The IP Phone can be configured via Web browser. The built-in Web server provides a user-friendly interface for setting and modifying parameters.*

## Overview

This chapter describes the setup procedure for configuring the IP Phone from a web browser.

**After changing the settings, some new settings won't take effect until being saved and IP phone restarted. Use the *Reset* button on the *Reset* screen to restart the IP Phone.**

## Configuration Program

The IP Phone contains an HTTP server. This enables you to connect and configure via web browser. **Your web browser must support JavaScript**. The configuration program has been tested on the following browsers:

- Firefox V2.02 or later
- Internet Explorer V6 or later

### Preparation

Before attempting to configure the IP Phone, please ensure that:

- Your PC can establish a physical connection to network. The PC and the IP Phone must be on the same LAN segment.
- The IP Phone must be installed and powered ON.
- By default, IP Phone will have a dynamic IP address, you can check it from Menu; press Menu key, choose Network and select IP Address to check the IP address. The default password is 1234.

### Using Your Web Browser

To establish a connection from your PC to the IP Phone:

1. Start your web browser.
2. In the *Address* box, enter "HTTP://" and the IP Address of the IP Phone, for example: 192.168.1.250.

```
http://192.168.1.250/
```

## Login

After connecting to the IP Phone from a web browser, you will see the following *Login* screen .

By default, the user name is “admin” and the default password is “1234”.

**Figure 3: Login Screen**

Enter the user name and password and click the OK button to log in the IP Phone.

# Network Screen

This screen allows you to set up the network configuration.

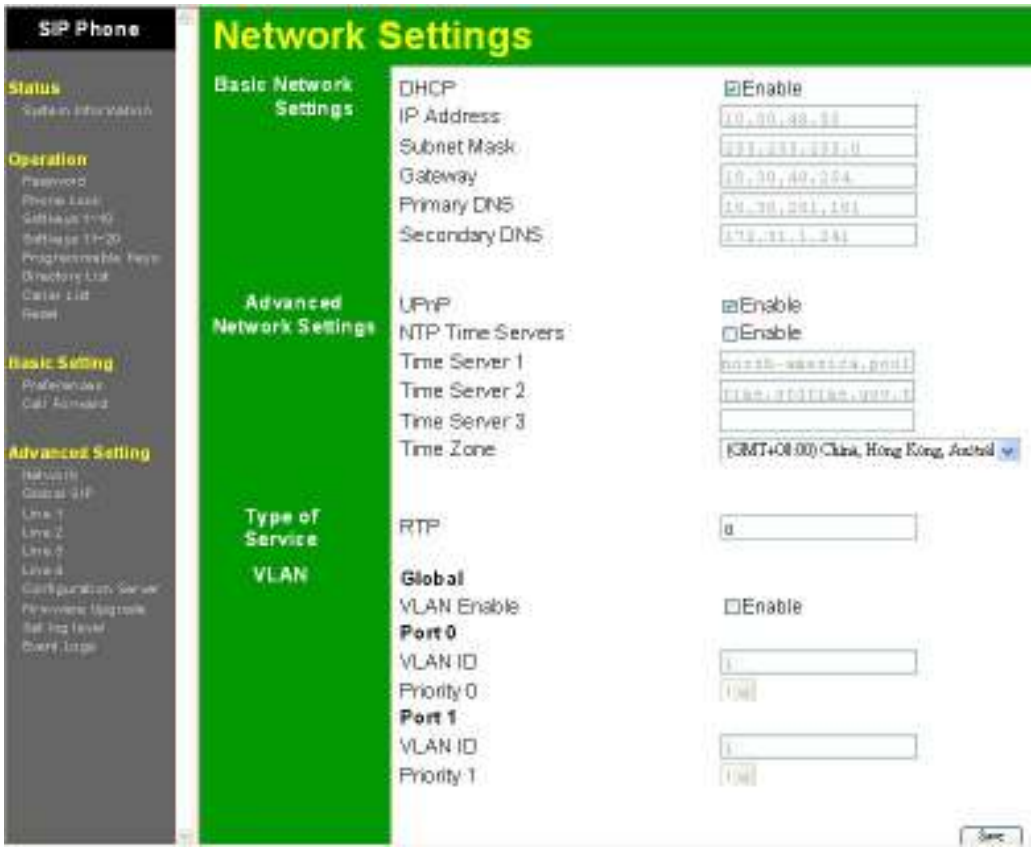



**Figure 4: Network Screen**

## Network Screen

| Basic Network Settings | |
|---|---|
| **DHCP** | If selected, the IP Phone will obtain its IP address and related information from a DHCP Server. Select this option only if your LAN has a DHCP Server. |
| **Network Settings** | If DHCP is not selected, you must assign the following data to the IP Phone.<br>• **IP Address** - The IP Address of this device.<br>• **Subnet Mask** - The Subnet Mask associated with the IP Address above. Enter the value used by other devices on your LAN. The default value **255.255.255.0**<br>• **Gateway** - The IP Address associated with the IP Address above.<br>• **Primary DNS –** The primary domain name server.<br>• **Secondary DNS –** Some networks also provide a secondary domain name server. |
| **Advanced Network Settings** | |

| | |
|---|---|
| **UPnP** | This option provides the NAT traverse of an IP phone behind a NAT router. If selected, the IP Phone will obtain the public gateway IP address, and the RTP ports mapped from UPnP server. Select this option only if your LAN has an UPnP Server. |
| **NTP Time Servers** | Checking this button enables the NTP protocol to obtain time and date from Internet. |
| **Time Server 1~3** | Specifies the NTP time servers. |
| **Time Zone** | Choose the Time Zone for your location from the drop-down list. |
| **Type of Service** | |
| **RTP** | Setting this value other than 0 will enable the ToS of voice packets (RTP). |
| **VLAN** | |
| **Global VLAN Enable** | Checking the box will enable the VLAN settings below. |
| **VLAN ID for Port 0 and Port 1** | Setting the ID value will identify the associated port to a specific VLAN. |
| **VLAN Priority for Port 0 and Port 1** | Setting the priority values will prioritize the packets on the port. |

## Password Screen

The password screen allows you to assign a new user name and password to the IP Phone. Once a user name and/or password has been set (recommended), you will be prompted to enter newly configured username / password at re-entry to the Web GUI.

**Figure 5: Password Screen**

### Password Screen

| Password | |
|---|---|
| **User Name** | Enter new user name if desired. |
| **Current Password** | Enter the existing password in this field. |
| **User Password** | Enter the new password here. |
| **Password Confirm** | Enter the new password again. This entry must match the value above. |

## Status Screen

The Status screen appears when you successfully log in to the web server.

**Figure 6: Status Screen**

### Status Screen

| Network Status | |
|---|---|
| **Link State** | Indicates the LINK status of ports 0 and 1. |
| **MAC Address** | The MAC address of the IP phone. |
| **Firmware Version** | The application firmware version. |
| **Boot Version** | The current version of the boot loader. |
| **Date/Time** | The build date and time of the application firmware. |

## Phone Lock Screen

This page allows you to lock the phone and the only phone numbers allowed to dial out when phone is locked.

## Soft Keys Screens

These two pages, Softkeys 1~10 and Softkeys 11~20, allow you to define the feature of each of the 6 soft keys.

One of 10 features can be selected for each soft and programmable key, the features are:

- None: Leave the key as a blank entry,
- Speed dial: You can dial to a person (Label) with the pre-defined number (Value) through the pre-defined Line. The Labels can be seen beside the soft key when phone is in idle, connected, incoming and outgoing states.
- Do Not Disturb: The DND feature can be turned on/off by pressing the soft key. DND label displays beside the soft key, and can be seen when phone is in idle, connected, incoming and outgoing states.
- BLF: This is a server-specific feature which monitors other phones on the network by sending SUBSCRIBE and receiving NOTIFY methods. You may input the person (Label)

you want to monitor with phone number (Value) and the Line to monitor through. BLF behaves when phone is in idle, connected, incoming and outgoing states.

- The LED beside the soft key is Off when the monitored phone is in idle state, pressing the soft key can make call to the monitored phone.
- The LED is on when the monitored phone is in busy state.
- The LED is blinking when the monitored phone is ringing.

- **Prefix:** This feature allows for call placement with pre-defined keys before entering the destination number. When a Prefix soft key is pressed, the phone will dial the prefix number (Value) denoted by Label through the pre-defined Line, and waits for user to dial the destination number. The Prefix is displayed in idle and connected states. Please note that the phone will take no action when the Prefix is pressed under idle mode via a UNREGISTERed Line.
- **Park:** A server-specific feature. When Park is defined (Label) for a specific number (Value) through a specific Line, the number will be sent to the server for parking an incoming call to server. Note that the Park is only available in connected state.
- **Pickup:** A server specific feature. When the Label, Value and Line is determined, phone A will send the Value to server for phone B which is registered to the to the same server to pick up a ringing call at phone A. This feature is only available in idle mode.
- **Intercom:** A server-specific feature, which requests a destination phone to pick up automatically. Only the Label can be modified, and be displayed in idle mode. Refer to Preferences Screen for setting outgoing intercom calls. Depending on the setting of the destination phone, the call may be picked up automatically or rejected. Please refer to the Preferences Setting for details.
- **Call Retrieve:** Server-specific feature to retrieve a call from server. The Label, Value and Line is effective only in idle mode.
- **Last Call Return:** Only the Label in idle mode the feature is effective. The phone will record the last incoming call number and line number.

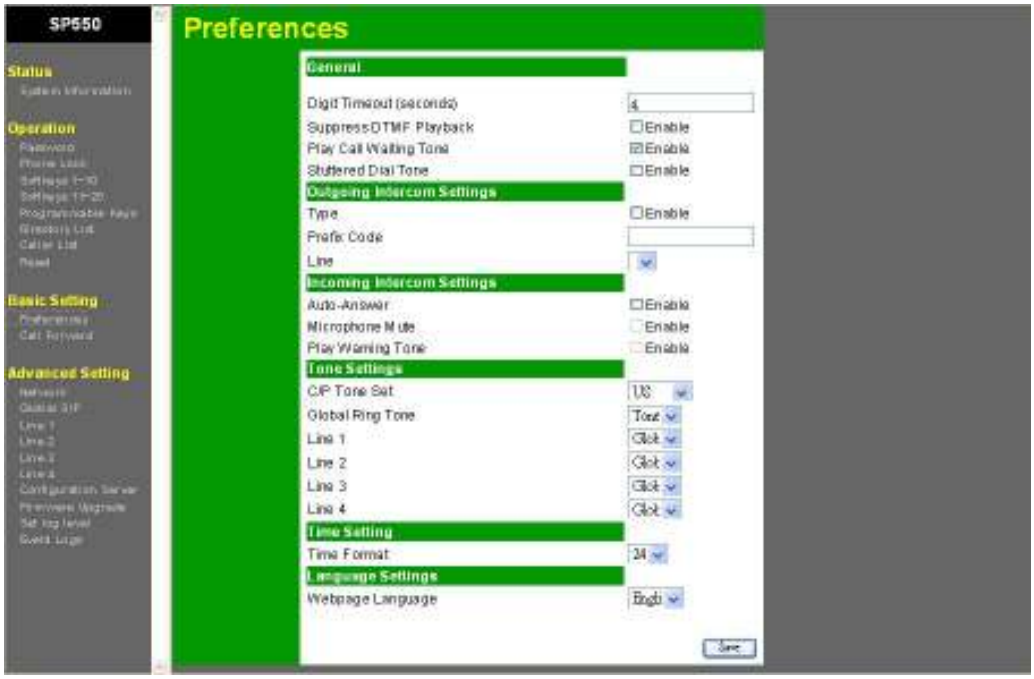
## Programmable Keys Screen

The page allows you to define the feature of each of the 6 programmable keys. Each programmable key has a LED to show the status of the key if available.

Similar to soft keys, one of the 10 features can be selected for each programmable key. Since there are no display concern, no Label and States can be set.

## Preferences Screen

The page allows you to define your own preferences.




| | |
|---|---|
| **General** | |
| **Digit Timeout (sec)** | Specify the inter-digit timeout period in seconds. |
| **Suppress DTMF Play-back** | Play no digit sound for security reasons. |
| **Play Call Waiting Tone** | Enable/Disable call-waiting tone in an active conversation. |
| **Stuttered Dial Tone** | Enable/Disable stuttered dial tones when you have voice mail(s). |
| **Incoming Intercom Settings** | |
| **Type** | Enable/Disable the outgoing Intercom capability. |
| **Prefix Code** | The server-specific key string for placing an outgoing Intercom call. |
| **Line** | Specifies the Line through which the call is made. |
| **Outgoing Intercom Settings** | |
| **Auto-Answer** | The server-specific key string for placing an outgoing Intercom call. |
| **Microphone Mute** | Mute/Un-mute microphone when receiving an incoming Intercom call. Effective when Auto-Answer enabled. |

| | |
|---|---|
| **Play Warning-Tone** | Effective when Auto-Answer enabled, either play or not play warning tone when an Intercom call comes in |
| **Tone Settings** | |
| **C/P Tone Set** | Specify the CP tone set in country. Six countries are pre-defined. |
| **Global Ring Tone** | Specify the global ring tone, six ring tones are pre-defined, including silence. |
| **Line 1 ~ 4** | Specify a specific ring tone for each line. |
| **Time Setting** | |
| **Time Format** | Specify 12hr or 24hr for display. |
| **Language Settings** | |
| **Web Page Language** | Specify the language for web page display. Currently, only English is available. |

## Reset Screen

The page allows you to restart the phone, restore settings to default, and remove user settings via web page and keypad.

| | |
|---|---|
| **Phone** | |
| **Restart Phone** | Reboot the phone. |
| **Current Settings** | |
| **Restore To Factory Defaults** | Restore all settings to factory defaults |
| **Remove Local Configuration Settings** | Restore all user settings via web pages and keypad. |

## Call Forward Screen

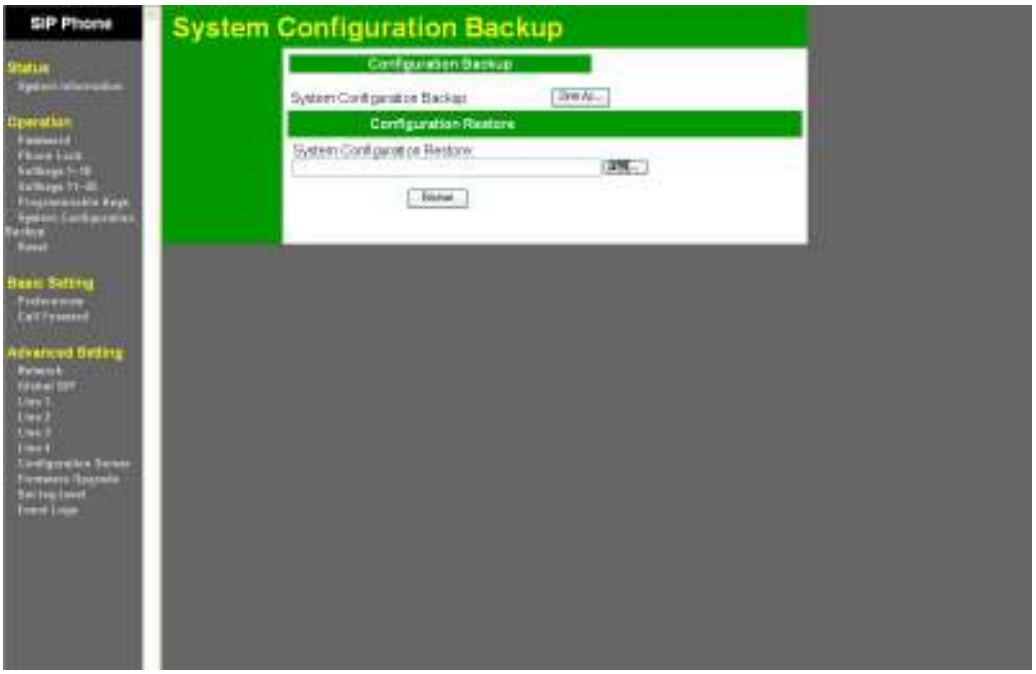
The page allows you to set one of the three call forward modes per line or globally.

| | |
|---|---|
| **Global Settings** | |
| **Mode** | Either Off, All, Busy, or No-Answer can be selected. |
| **Number** | The destination you want to forward the incoming call. |
| **Time** | Effective only for No-Answer mode. |
| **Local Line Line1~Line4** | |
| **Mode** | Either Off, All, Busy, or No-Answer can be selected. |
| **Forward Number** | The destination you want to forward the incoming call for the Line. |
| **Time** | Effective only for the Line in No-Answer mode. |

**Note: Per line settings, when enabled, over-write the global settings.**

## System Configuration Backup Screen

The page allows you to backup or restore all information on your phone, including the caller list, phone book, and the system configurations. All files are compressed into a single file, users can check each file when decompressed. Modification of the files is not recommended.



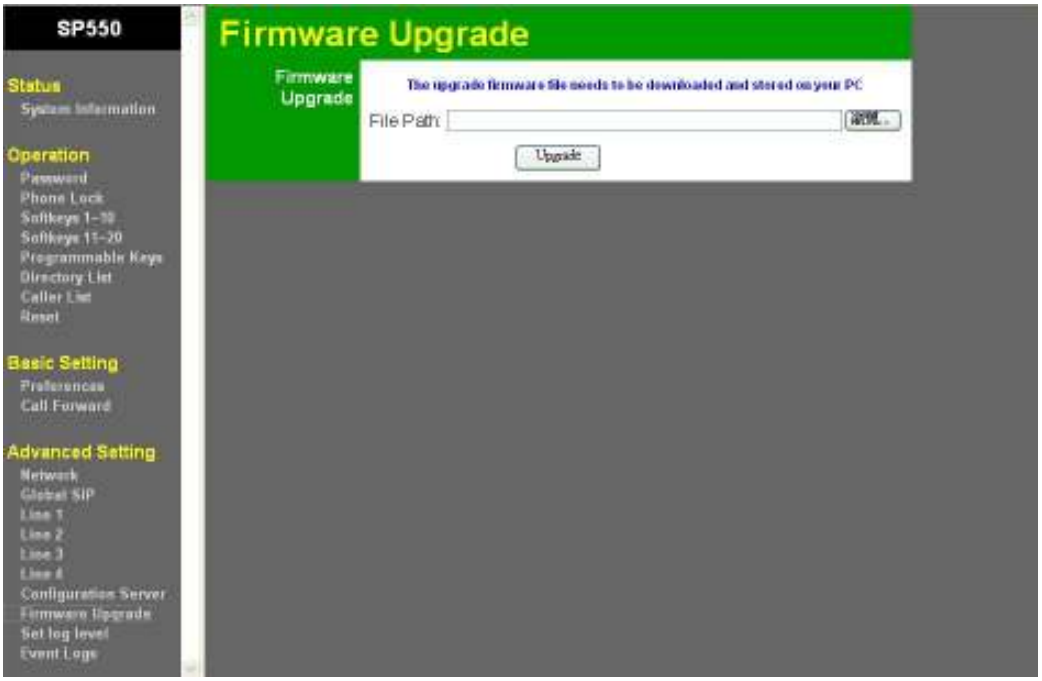
## Configuration Server Screen

The page allows you to set up the configuration server parameters using TFTP protocol, suitable for an auto-provisioning system. The flow and contents of auto-provisioning can be various with different projects.

| Settings | |
|---|---|
| **TFTP Server** | Specify where the TFTP server is located. |
| **Auto-Resync** | |
| **Mode** | It can be NONE, Configuration Files, Firmware Upgrade, or BOTH. |
| **Duration** | Defines how long the period the phone should be re-synchronize with the server settings. |

## Firmware Upgrade Screen

The page allows you to upgrade the application firmware.

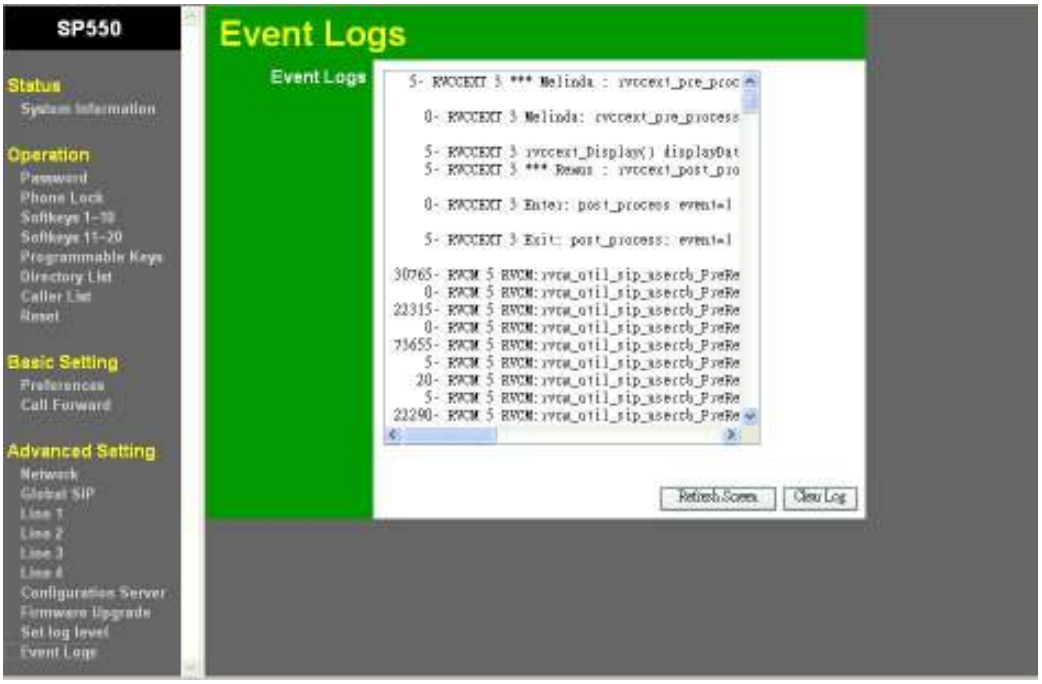


## Set Log Level Screen

The page allows you to set the levels of debug logs.

## Event Logs Screen

The page allows you to see the debug logs specified by the log levels. The message logs help to debug the troubles you are encountering.



## Chapter 6

# SIP-Related Settings

*This Chapter explains when and how to use the IP Phone's "VOIP" feature.*

## Global SIP Screen

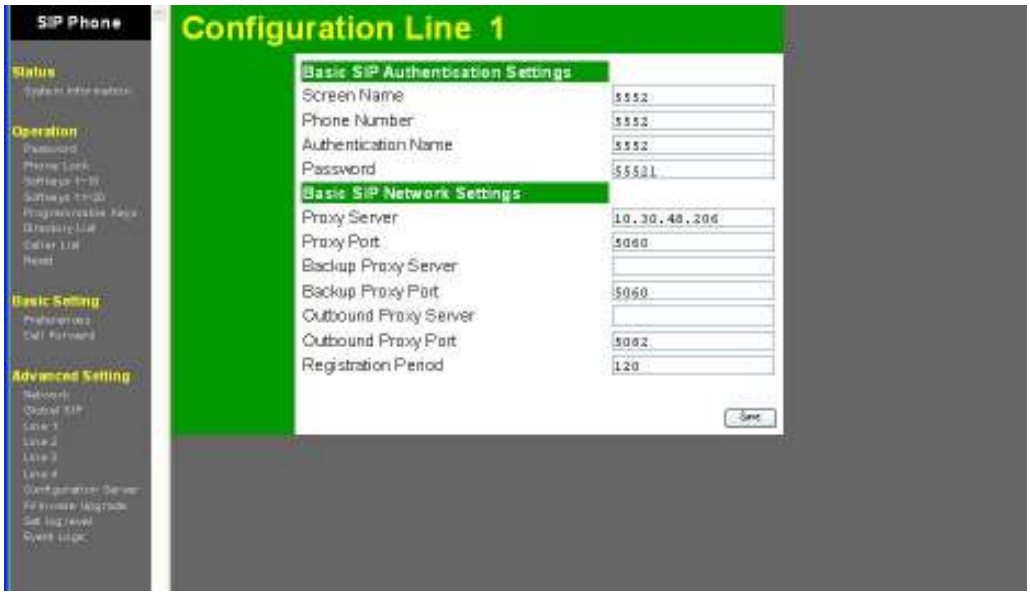
The page allows you to set up SIP parameters that apply to all four lines.

| Advanced SIP Settings | |
|---|---|
| **Explicit MWI Subscription** | Enable/Disable the subscription of message waiting. |
| **Explicit MWI Subscription Period** | Specify the period of re-subscribe for the message waiting. |
| **Session Timer** | The session timer defined in "draft-sip-session-timer" |
| **T1 Timer** | The T1 timer defined in RFC 3261 |
| **T2 Timer** | The T2 timer defined in RFC 3261 |
| **Transaction Timer** | The T4 timer defined in RFC 3261 |
| **Transport Protocol** | UDP or TCP can be selected, UDP recommended. |
| **Registration Failed Retry Timer** | The timer to retry registration when several tries have failed |

| | |
|---|---|
| **BLF Subscription Period** | The period that re-send the SUBSCRIBE for BLF monitoring |
| **RTP Settings** | |
| **Base RTP Port** | Specify the base port number for voice packets |
| **DTMF Method** | The method to carry the DTMF information during a conversation, can be RTP, RFC2833 or SIP INFO. |
| **SIP Port Setting** | |
| **SIP Signaling Port** | Specify the SIP signaling port number for SIP packets exchanges, default is 5060 |
| **Preferred Codec in Order** | |
| **Preferred Codec** | Total of four voice codecs, G.711u, G.711A, G.722 and G.729 can be selected in order. 1 denotes the most preferable, and 4 the least. |
| **Silence Suppression** | Enable/Disable the silence suppression. Silence packets (small packets) will be sent when enabled and user is not talking. |

## Line Screens

These four pages allow you to set up the phone-specific information and the SIP servers for each Line.




| Basic SIP Authentication Settings | |
|---|---|
| **Screen Name** | The name displayed at the very right to LCD line 1. Also, the name used when sending INVITE method. |
| **Phone Number** | The phone number used in INVITE method, and also the number others can call you. |
| **Authentication Name** | The authentication name used when server requests to. |
| **Password** | The authentication password used when server requests to. |
| **Basic SIP Network Settings** | |
| **Proxy Server** | The SIP proxy and Registrar server where all signaling packets headed for. |
| **Proxy Port** | The port number of the proxy/registrar server. Default is 5060. |
| **Backup Proxy Server** | The backup SIP proxy and Registrar server where all signaling packets headed for. |
| **Backup Proxy Port** | The port number of the backup proxy/registrar server. |
| **Outbound Proxy Server** | The outbound proxy server where all signaling and voice packets headed for. Default is 5082. |
| **Outbound Proxy Port** | The port number of the outbound proxy server. |

| | |
|---|---|
| **Registration Period** | The period when the line should re-send the REGISTER method. |

## Appendix A

# Troubleshooting

*This Appendix covers the most likely problems and their solutions.*

## Overview

This chapter covers some common problems that may be encountered while using the IP Phone and possible solutions to them. If you follow the suggested steps and the IP Phone still does not function properly, contact your dealer for further advice.

## General Problems

***Problem 1:*** **Can't connect to the IP Phone to configure it.**

**Solution 1:** Check the following:

- The IP Phone is properly installed, LAN/PC connections are OK, and it is powered ON.
- Ensure that your PC and the IP Phone are on the same network segment. (If you don't have a router, this must be the case.)
- If your PC is set to "Obtain an IP Address automatically" (DHCP client), restart it.

***Problem 2:*** **Can't make changes effective immediately after setting via web or keypad.**

**Solution 2:**

- Some of parameters cannot be effective right after settings, please make sure the changes are saved and restart your phone and check if the changes take effective.
- Generally speaking, if the changes are made to network and/or SIP, a phone restart will be necessary.

## Appendix B

# Specifications

## IP Phone

| | |
|---|---|
| Model | IP550 |
| VoIP Signaling Protocol | Session Initiation Protocol (SIP) |
| Voice Codecs | G.711, G.729AB, G.722 |
| Network Interface: | 2 RJ45 10/100 Mbps Ethernet ports to PC and LAN |
| Keypad | 44 keys<br>Standard keypad: 12<br>Navigation Keys: 4<br>Fixed Function keys: 12<br>Soft Keys: 6<br>Programmable Keys: 6<br>Line Keys: 4 |
| LCD | 128 x 64 Hi-resolution Pixel Based LCD with Backlight and five status icons |
| LED Indicators | 1 for Incoming ring and Message Waiting<br>4 for Line keys<br>3 for Mute, Hold and Speaker/Headset Keys<br>12 for Soft and Programmable Keys<br>1 for Ethernet Link Status |
| Power Adapter | 5V/1A DC External<br>802.3af Power Over Ethernet |
| Dimensions | 185mm(W) * 240mm(D) * 120mm(H) |
| Operating Temperature | 0° C to 40° C |
| Storage Temperature | -20° C to 70° C |
| Regulation | CE, FCC Class B |

# Appendix C

# MMI Specifications

Comment:

## 1. Display Rule

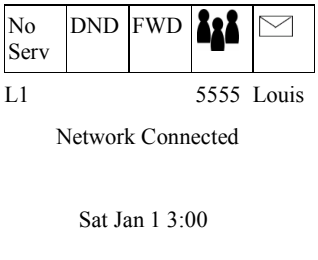
LCM visual space has 128x64 pixels and one line of icons. Each character is designed to use 8x6 pixels. Totally LCM display area can afford 8 lines and 21 characters per line.

| | |
|---|---|
| Icons | Icons show some specific status of the phone, including No Service for registration information, DND for Do not disturb, Forward for call forwarding, Conference for 3-way conference, & Voicemail for indicating voice mail existence. |
| Line 1~5 | Lin1~5 are for showing the phone states, and call information. Phone states include network status and time information. Call information includes the outgo-ing/incoming call information and the registration line information. |
| Line 6~8 | Line 6~8 are for operations of soft keys. Two type of soft key are contained in SP550, pre-defined and state-based soft key. Predefined keys are fixed name/value in SP550. User could define up to 20 sets of state-based soft key. |

### 1.1 Idle Display

During idle state, Screen name and the extension number of a line are shown on line 1. SIP Line1~4 could be switched by left/right navigation keypad. Network link status is shown on line 2 and a LED on the top. If phone connects to network successfully, message "**Network Connected**" should be displayed on line 2 for Ethernet link status. Date/Time information is shown on line 4.

Idle state:



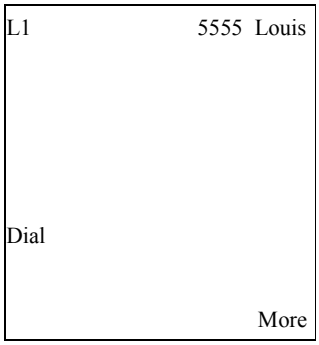
# 2. Basic Call Features

## 2.1 Placing, Answering and Ending Calls

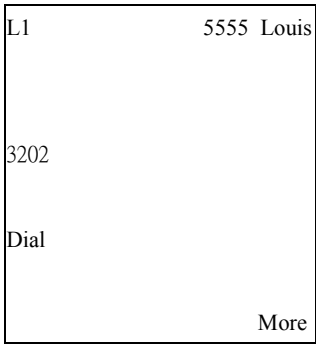
### 2.1.1 Placing Calls

**Use Handset or press Line Key or Speaker key.**

Pick up handset or press
Line Key

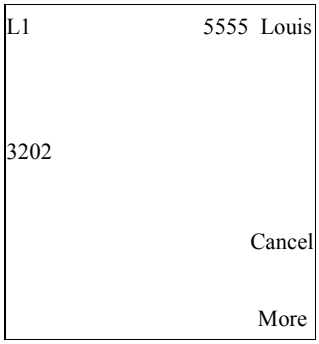



Dial a number — Dial a number.



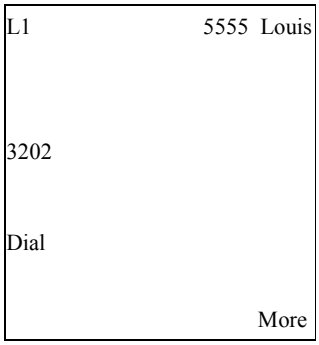

**Inter-Digit Timeout**

Inter-digit timeout — Dialed digits will be sent out after inter-digit timer expires. Inter-digit Timer is programmable.




**Press Dial Soft Key**

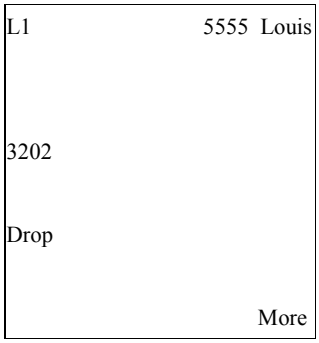
Press Dial soft key to dial out immediately.




**Answered**

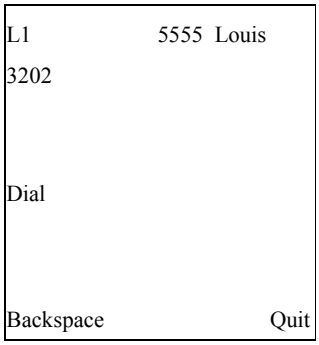
Remote answers

Remote end answers.



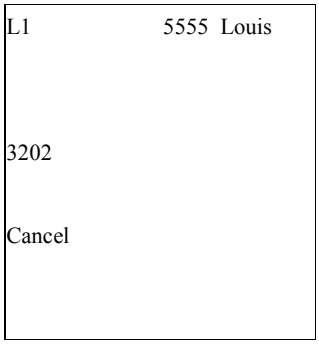

**Pre-Dial**

Dial a number without lifting handset or pressing Line key or speaker key.



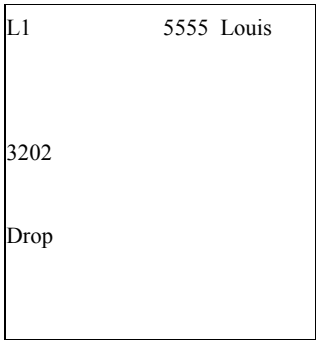

Dial out

Press Dial or lift handset or press Line key or speaker to dial out.



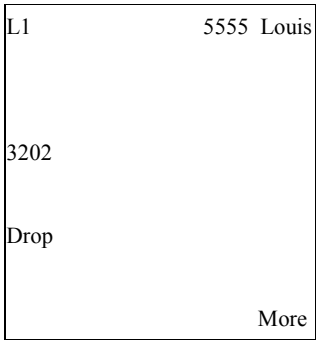

**Answered**

Remote answers Remote end answers.



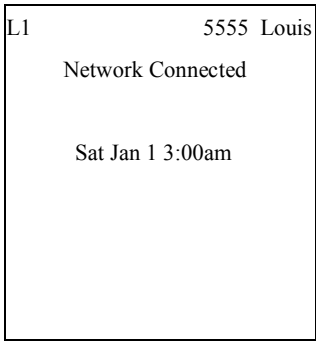
### 2.1.2 Ending Calls

While in a call conversation



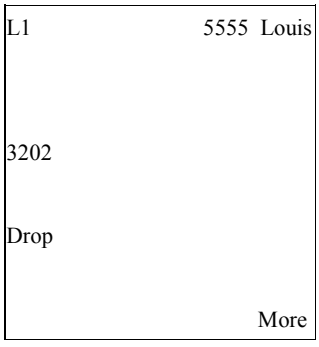

**Hang Up or press Hangup key or Drop softkey**

| | |
|---|---|
| Handset or Hangup key or Drop softkey pressed | Hang up the Handset or press Hangup key or Drop softkey, call is terminated and display is changed to show idle state message. |



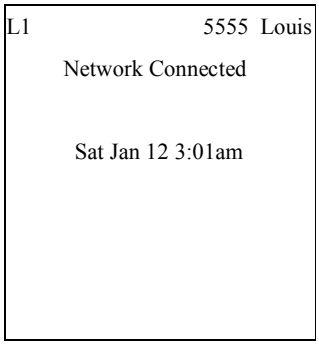

**Remote End Terminates The Call**

During call conversation.



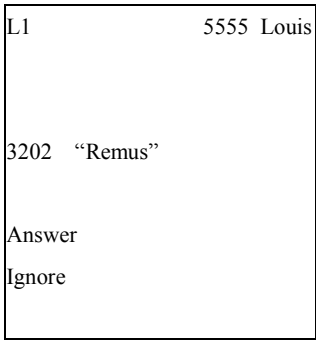
Remote released

BYE method is received from remote end. LCD back to idle state.



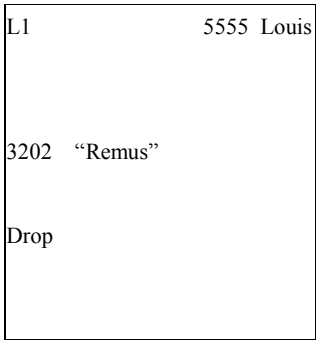

### 2.1.3 Incoming Call

When an incoming call on line1.



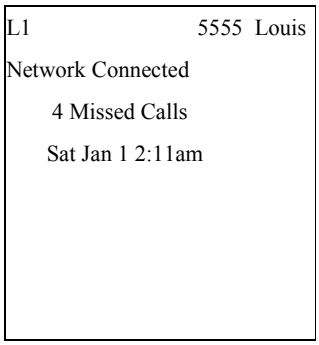

Answer/ignore

Press Answer soft key to pick up call. Press Ignore soft key to reject call and the missed calls counter will be increased by 1.



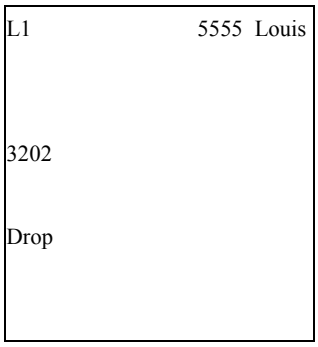

**Missed Calls**

Missed Calls counter will show on idle screen if user misses calls.



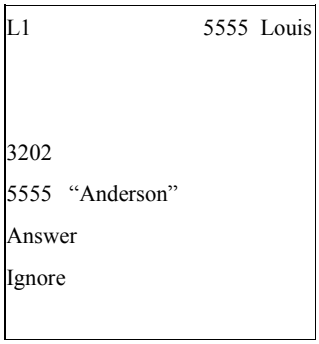

#### 2.1.3.1 Waiting Call

When a call is in progress in Line 1.



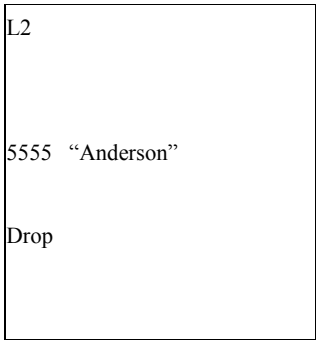
Another call is coming in at L2

Waiting call info is displayed, and Answer and Ignore soft keys shown




Press Answer to answer the waiting call

L2 screen shows up

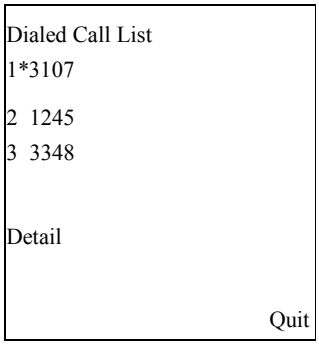



Press Ignore to send BYE to the waiting call

## 2.2 Redial

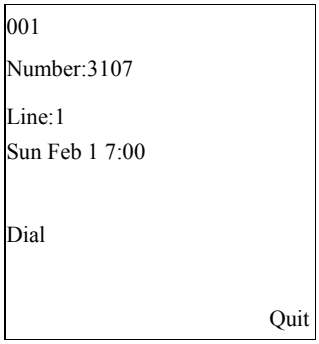
Press REDIAL Key

Pressing REDIAL key while in idle state to show dialed numbers & time on screen. Use Up/Down navi key to select one, prefixed by *.



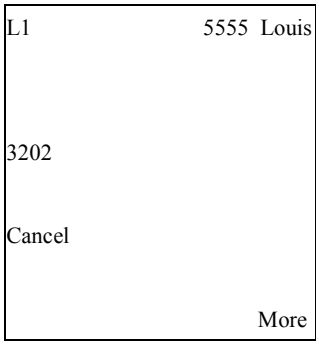

Press Detail Key

To show the detailed information of the dialed call.



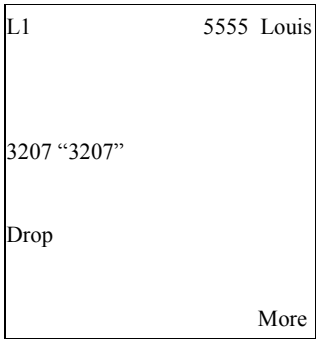

Press Dial

Press Dial soft key to dial out immediately.



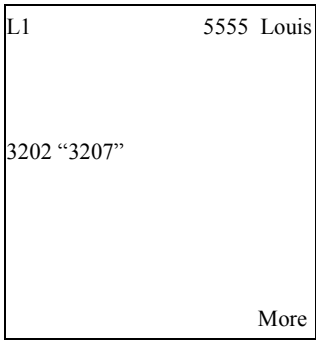
## 2.3 Call Hold

While call is in conversation:



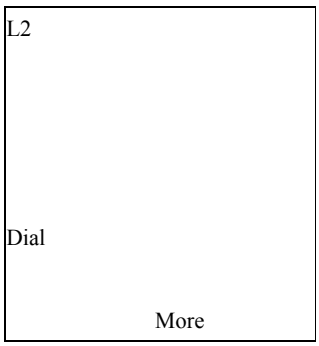

Use HOLD Key

Press HOLD Key — Press HOLD key to hold current call. Led of line 1 blinks slowly, HOLD led turns on.



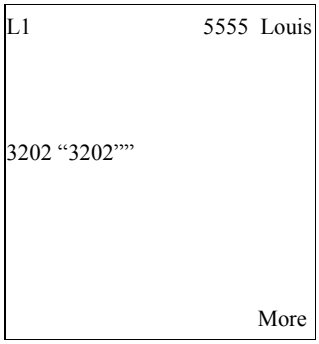

**Access New Line**

Press Line Button — When access Line2 ~ 4, Line 1 is put on hold. Led of line 1 flash slowly.



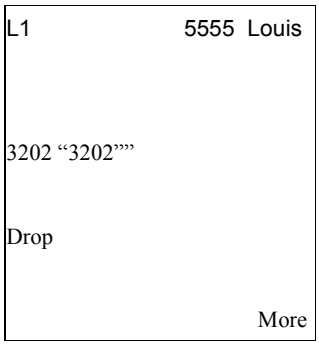
## 2.4 Call Hold Retrieve

While Line 1 is on-hold.



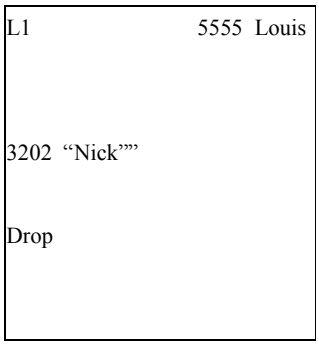

Press Line Button

Press Line1 Button  Press Line 1 Button to retrieve a held call.



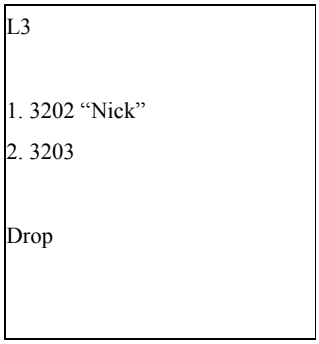
## 2.5 3-Way Conference

While a call is in conversation on line 1. →5555 Call 3202 and in conversation



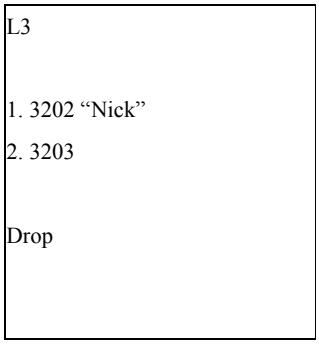

Press Conference key

Press Conf soft key to start a 2nd call. →Dial 3203




Press Conference key again

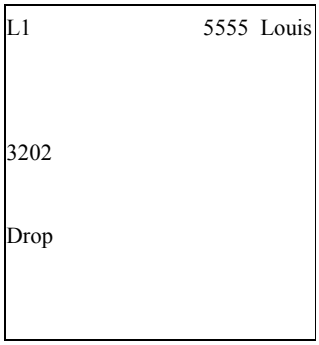
To start 3-way conference. →5555 ,3202 and 3203 in conversation



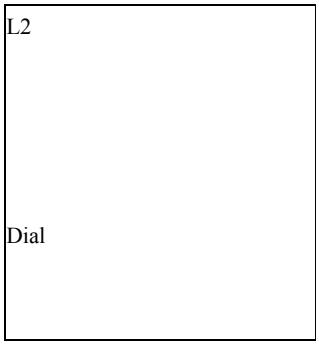
## 2.6 Call Transfer

### 2.6.1 Attended Transfer

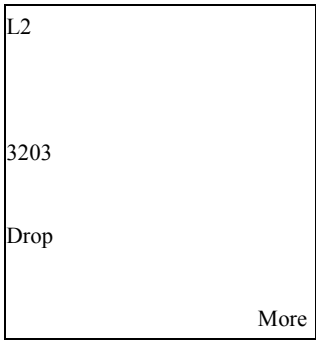
While line 1 in conversation. →5555 call 3202



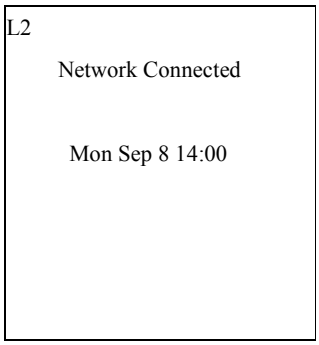

Press Transfer key — To hold the current call and access a new line.




Dial a Number & press Dial soft key — To start a 2nd conversation.-->Dial 3203 and press dial soft key

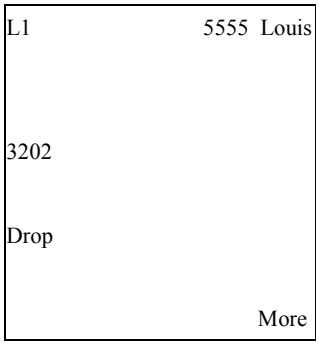



Press Transfer key again — To transfer the 1st call to the 2nd. LCD screen displays in idle state.

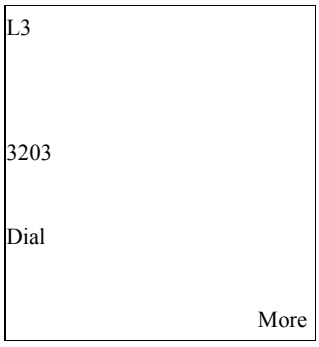



### 2.6.2 Blind Transfer

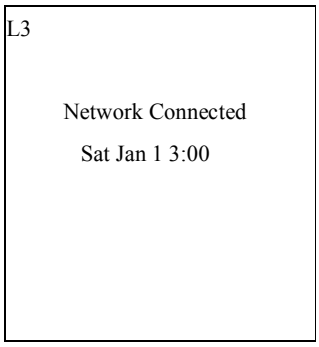
While line 1 in conversation.




Press Transfer key To hold the current call and access a new line.

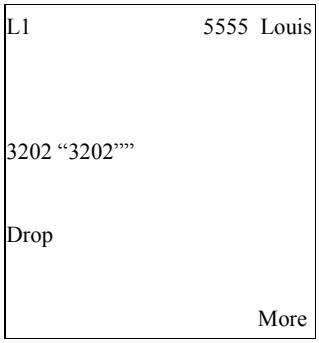



Dial the 2nd call and press Transfer key again Blind transfer takes place, LCD screen goes back to idle state.


L3
Network Connected
Sat Jan 1 3:00

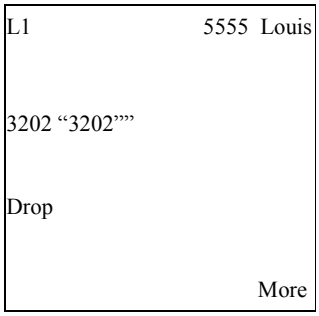
## 2.7 Call Mute

Mute can be enabled only while call conversation is in progress.



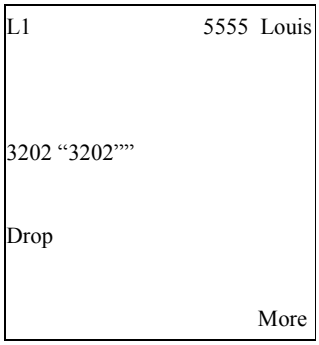

### Activate Mute

Press MUTE Key — Press Mute key to prohibit voice from being transmitted. Incoming voice can still be heard during Mute is enabled. The Mute LED is ON.




### Deactivate Mute By MUTE Key

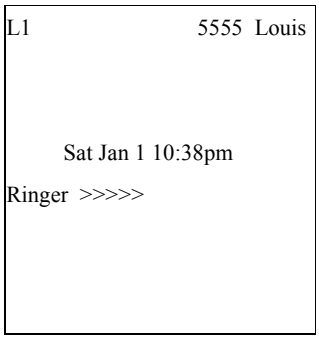
Press MUTE Key — Press MUTE key to deactivate Mute function. The Mute led turns OFF.



## 2.9 Volume Control

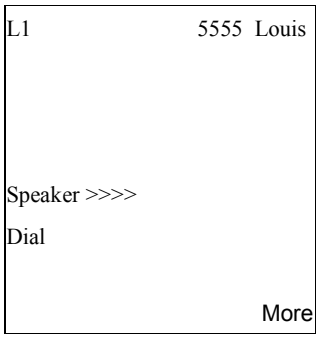
### Control Ringer Volume

To control Ringer volume, press Volume Up or Volume Down key while in idle state. The adjusted volume value will be shown on LCD for 3 seconds. A ringer with changed volume burst as the confirmation.



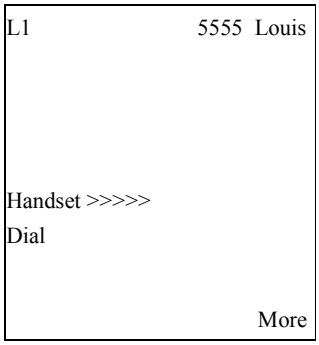

### Control Speaker Volume

Press Volume Up or Volume Down key when handsfree mode is activated. The adjusted volume value will be shown on LCD for 3 seconds.




### Control Handset Volume

Press Volume Up or Volume Down key when handset is lifted. The adjusted volume value will be shown on LCD for 3 seconds.



## 2.10 Voice Mail

Voicemail icon

The envelope icon ✉ appears when voice messages exist. The number shown indicates how many messages you have.

| No Serv | DND | FWD | 👥 | ✉ | | | | | |
|---|---|---|---|---|---|---|---|---|---|

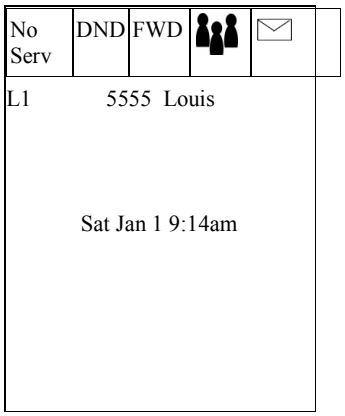
| |
|---|
| L1 5555 Louis |
| VoiceMail: 3/0 |
| 1 Missed Call |
| Sat Jan 1 10:38pm |
| |
| |
| |
| |

## 2.11 Status Icon

There are 5 status icons supported on top of LCD screen to indicate specific status. The status are Registration, DND, Forward, 3 way conference, & Voice Mail.

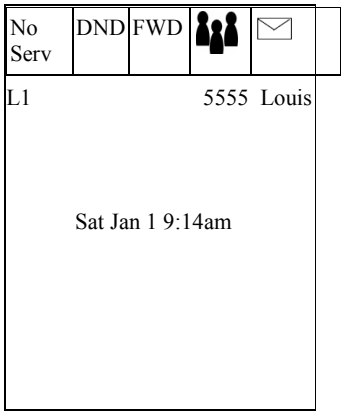
**Registration status**

If the registration of current line is failed, No Service icon will be lit on top of LCD screen.



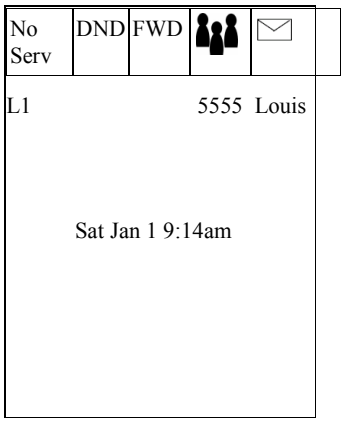

**DND status**

If DND is enabled per phone, DND icon displays the status of DND.



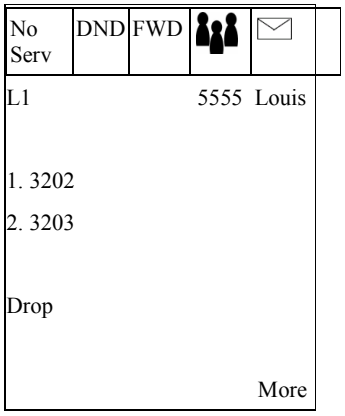

**Forward status**

If forward is enabled on current line or per phone, forward icon will be displayed on top of LCD screen.



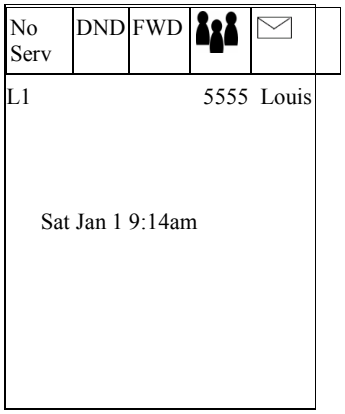

**3-ways conference status**

If a conference call is on going, Conf icon will be lit on top of LCD screen.




**VM status**

If current line has voice mails, VM icon will be lit on top of LCD screen.




## 2.12 Line Status

**Line function**: Each LED of the line hard key shows the status of the line. The following table provides a description for each LED status.

| Activity | Light | Definition |
|---|---|---|
| **Idle** | Off | There is no call activity for the line . |
| Off-hook or during a call | On | A call is connected to the IP phone on this line. |
| Ringing | Fast flashing | A call is ringing at this line. |
| On Hold | Slow flashing | This line is on **hold**. |

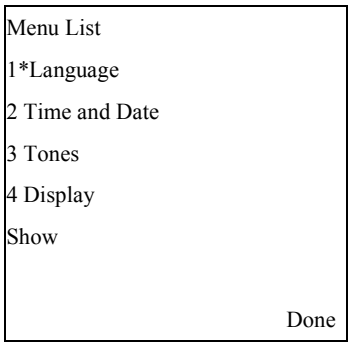
## 3. Programming via Phone UI

You can access specific options for the IP phone using the UI via the keypad. There are 10 configurations in the "Programming" manual include：

- Language
- Time and Date
- Tones
- Display
- Call Forward
- Network
- SIP Settings
- Phone Status
- Password
- Phone Lock

### Menu Category

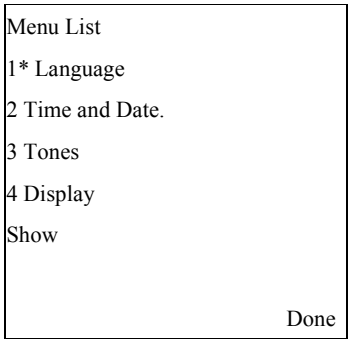
Press MENU key to enter the programming menu. Press Up and Down to change selection.



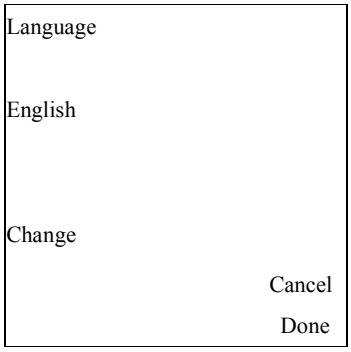

**Note: If the parameters being modified are line-related, only line 1 will be set.**

## 3.1 Language

Select Language or press item number to enter Language menu. After changing the language setting, all of display LCD screen (menus, services, options, configuration parameters, etc…) display in that language. Only one language is active at the same time, i.e., a download of a new language pack is required for each language change. ISO 8859-1 font set is supported, all fonts except English needs verifications from customers.




Press Change soft key to select Language setting.

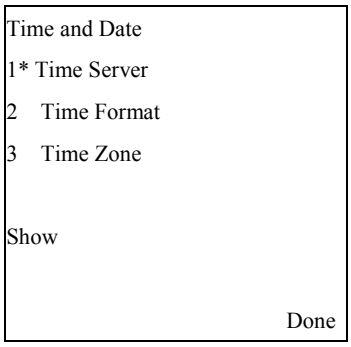



SP550 supports the font set defined in ISO 8859-1.

## 3.2 Time and Date

Following options allow user to customize IP phone settings

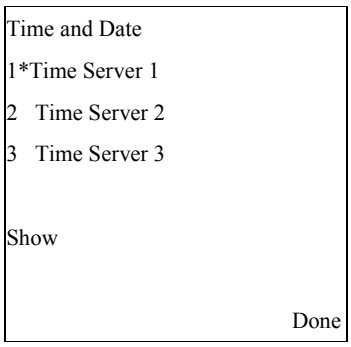
- **Time Server**
- **Time Format**
- **Time Zone**



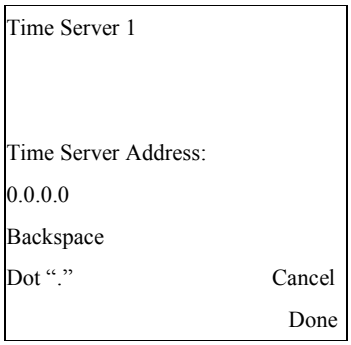

User can press up and down navigation key or option number to select the option, and configure the IP phone.

### 3.2.1 Time Server

Select “Time Server” option to configure time server.



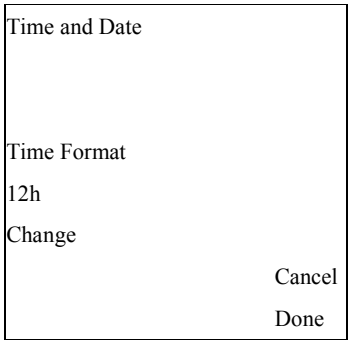

Set up Time Server 1~3 Use keypad and soft keys to setup IP address.



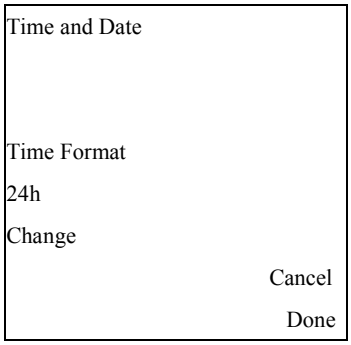

### 3.2.2 Time Format

In this option, user can change time format between 12h and 24h in the IP phone.

Select “Time Format” option to configure time format .



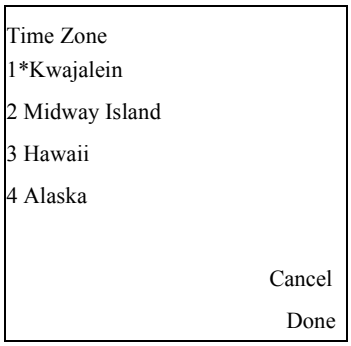
Press Change to configure time format .



### 3.2.6 Time Zone

User can configure time zone in this option.

Select Time Zone and press up/down navigation key to configure configure. Press Done to save or press Cancel to return to previous screen.

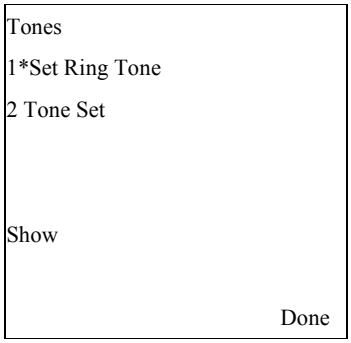


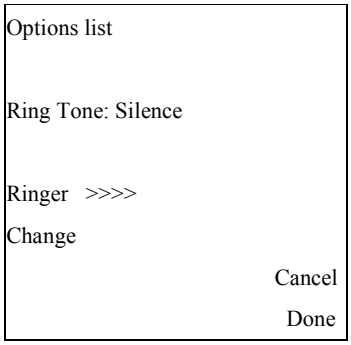
## 3.3 Tones

### 3.3.1 Set Ring Tone

5 ring tones and silent ring are supported for the phone.

Select Set Ring Tone option and configure. Ring tone can be selected by pressing Change button. Volume could be adjusted by pressing left/right navi key.




### 3.3.2 Tone Set

6 country tone sets are supported in the IP phone. When you configure the country's tone set, the country-specific tone is heard on the phone for the following:

- Dial tone.
- Ring back tone.
- Busy tone.
- Congestion tone.
- Call waiting tone.

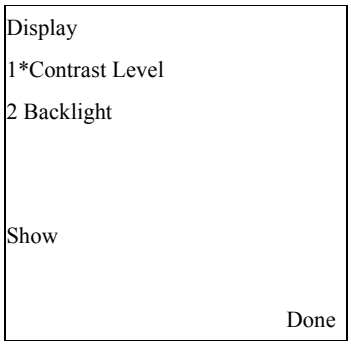
The country tone sets list is shown as following:

- **US (default- also used in Canada)**
- United Kingdom
- Italy
- Germany
- France

- Australia

## 3.4 Display

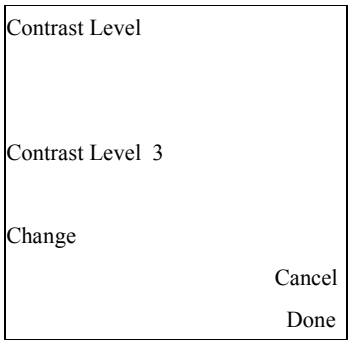
In this option, user can configure contrast level and backlight of LCD screen.




### 3.4.1 Contrast Level

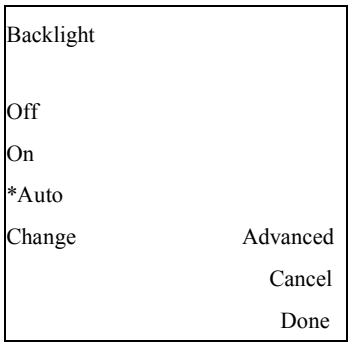
There are eight contrast levels could be selected by user.

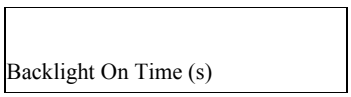
Select Contrast Level option to change contrast level (8) of LCD screen by pressing Change button.

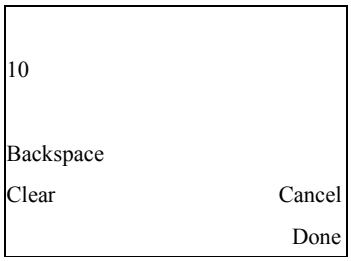



### 3.4.2 Backlight

There are 3 backlight modes could be selected by user. Always off, Always on, Automatic. In Automatic mode, user can setup Backlight on time by pressing the Advanced button.




10
Backspace
Clear
Cancel
Done

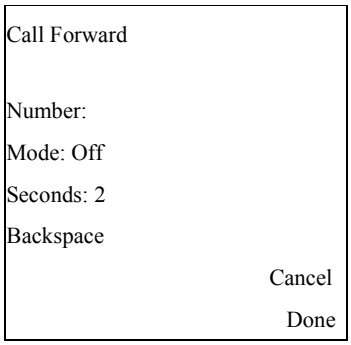
## 3.5 Call Forward

Three call forward modes are supported in the IP phone, All, Busy, and No Answer. User can set the following:

- **Destination number**.
- **Call forward mode**.
- **Period of seconds before forwarding the call** (active only for no-answer forward)

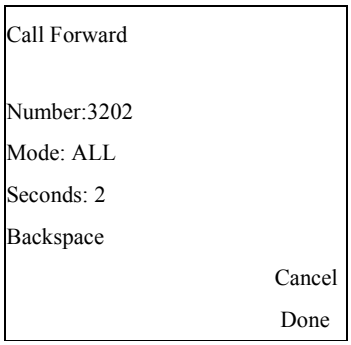
**Turn Off Any Call Forward**

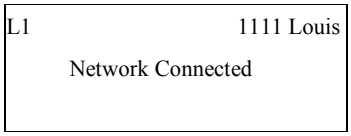
Select Call Forward option and configure the IP phone.

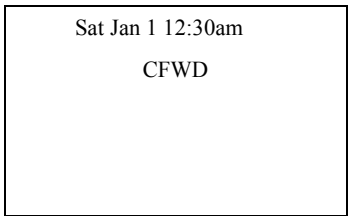



**Call Forward All**

Select "ALL" in Mode option, by pressing Left/Right button, and setup destination phone number. IP phone will forward any incoming call to destination phone number.

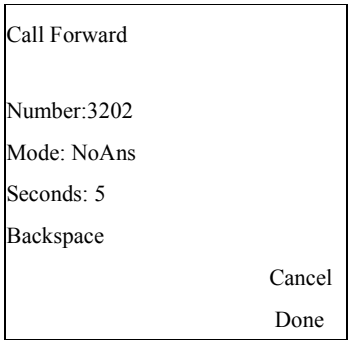


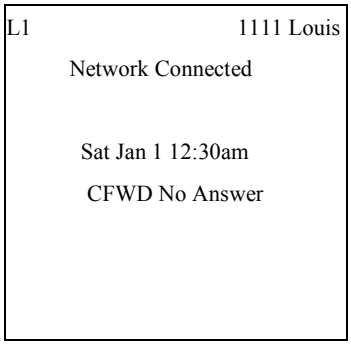




Sat Jan 1 12:30am
CFWD

**Call Forward No answer**

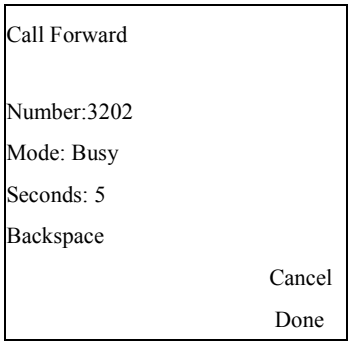
Select “NoAns” in Mode option then setup destination phone number and the period of seconds. IP phone will forward any incoming call to destination phone number if it is not answered in the specified period. The period is adjustable when the Seconds field is active, and Left/Right button to decrease/increase.

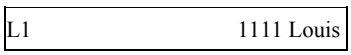


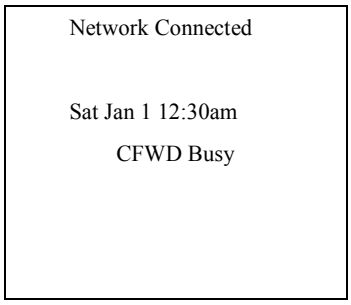




**Call Forward Busy**

Select “Busy” in Mode option then setup destination phone number. IP phone will forward any incoming call to destination phone number if it is already in use (one line is busy).



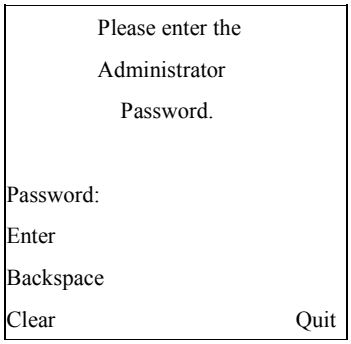

Network Connected
Sat Jan 1 12:30am
CFWD Busy

## 3.6 Network

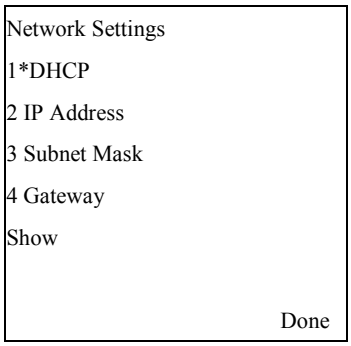
When enter Network option, IP phone will require user to enter administrator password. Total are 7 items included in Network option.

- DHCP
- IP Address
- Subnet Mask
- Gateway
- DNS
- VLAN
- Type of Service

Select Network option and then enter administrator password. The default is 1234.



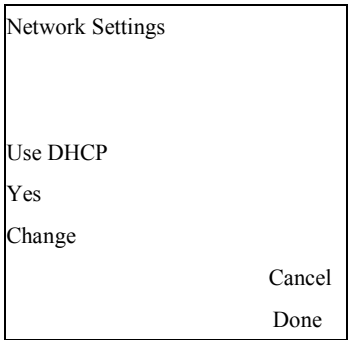

Enter Network Setting option list and start to configure.




### 3.6.1 DHCP

Enter DHCP option and select Yes or No. Press Done to save and return

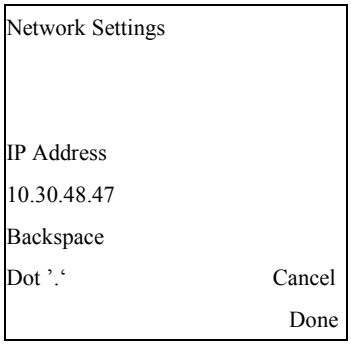
to previous menu



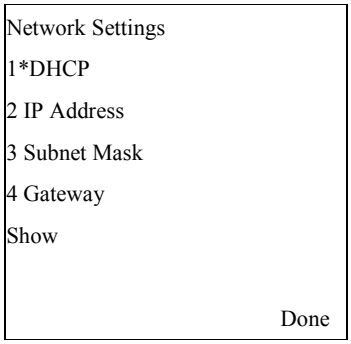

Press Done and restart message will show on LCD screen if this option has been changed. Press Restart to restart IP phone. Press Cancel to return to previous menu.

### 3.6.2 IP Address

Enter IP Address option and setup IP address of IP phone if DHCP mode is No. Press Cancel to abort this option. Press Done to save IP address and return to previous screen.



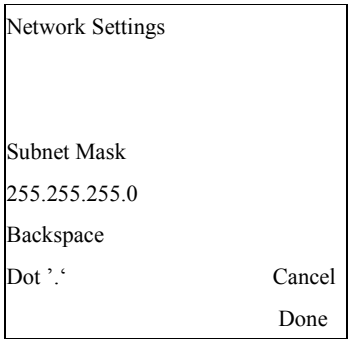

Press Cancel to return to previous menu.



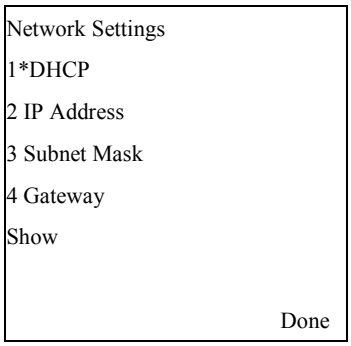

Press Done and restart message will show on LCD screen if this option has been changed. Press Restart to restart IP phone. Press Cancel to return to previous menu.

### 3.6.3 Subnet Mask

Enter Subnet Mask option and setup Subnet Mask address of IP phone if DHCP mode is No. Press Cancel to abort this option. Press Done to save Subnet Mask address and return to previous screen.



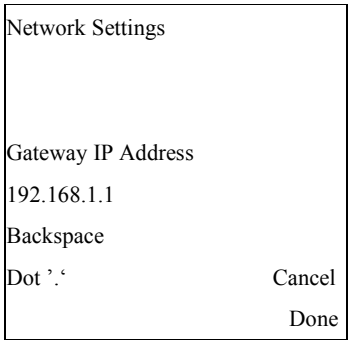

Press Cancel to return to previous menu.



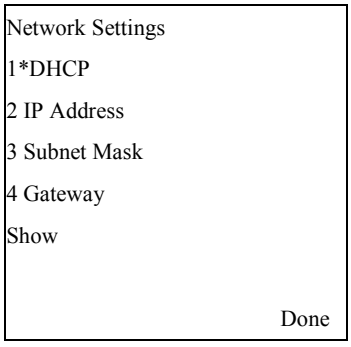

Press Done and restart message will show on LCD screen if this option has been changed. Press Restart to restart IP phone. Press Cancel to return to previous menu.

### 3.6.4 Gateway

Enter Subnet Mask option and setup Subnet Mask address of IP phone if DHCP mode is No. Press Cancel to abort this option. Press Done to save Gateway IP address and return to previous screen.



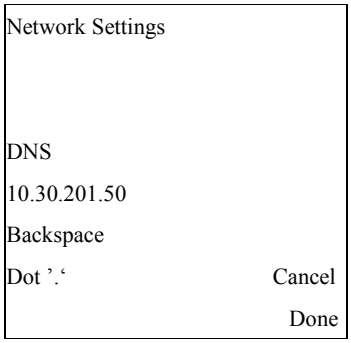

Press Cancel to return to previous menu.



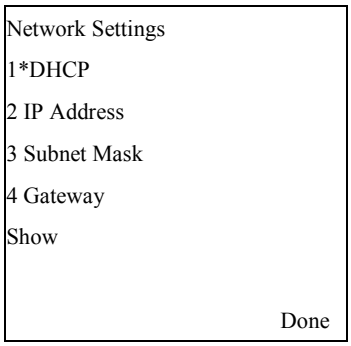

Press Done and restart message will show on LCD screen if this option has been changed. Press Restart to restart IP phone. Press Cancel to return to previous menu.

### 3.6.5 DNS

Enter DNS option and setup DNS address of IP phone if DHCP mode is No. Press Cancel to abort this option. Press Done to save DNS address and return to previous screen.



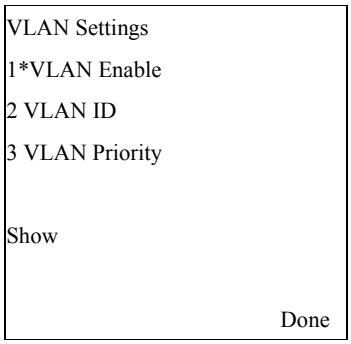

Press Cancel to return to previous menu.




Press Done and restart message will show on LCD screen if this option has been changed. Press Restart to restart IP phone. Press Cancel to return to previous menu.

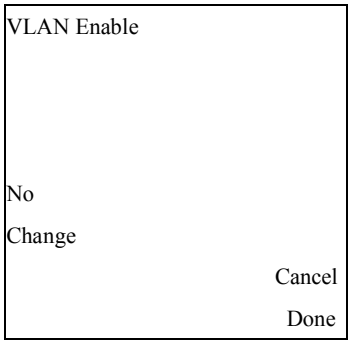
3.6.6 VLAN

Enter VLAN option and select VLAN Enable, Phone, & Passthrough. Press Done to return to previous screen.



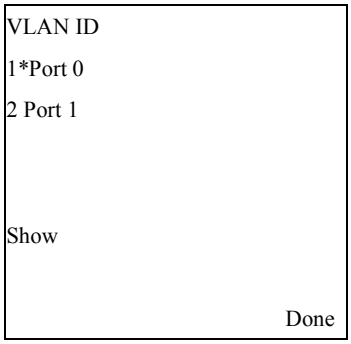

VLAN Enable

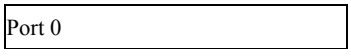
Enter VLAN Enable option and press Change soft key to choose “Yes” or “No” for VLAN Enable. Press Done to save or press Cancel to return to previous menu.

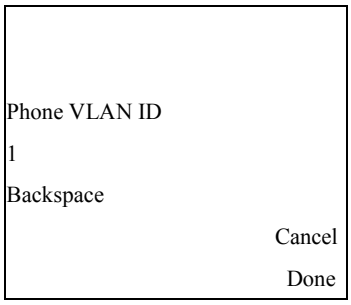



VLAN ID

Enter VLAN ID option and choose Port 0 or 1. Press Done to save or press Cancel to return to previous menu.

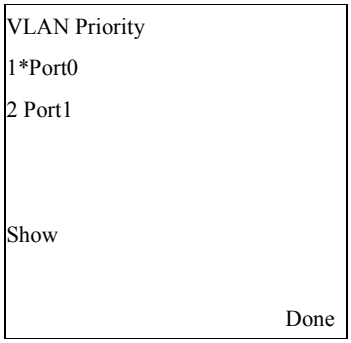




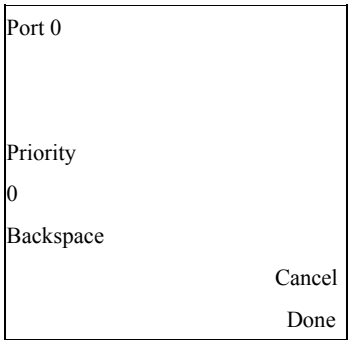

VLAN Priority

Enter VLAN Priority option and choose Port 0 or 1. Press Done to save or press Cancel to return to previous menu.



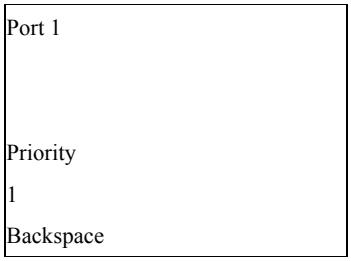

Port 0

Enter VLAN ID and enter ID number range from 1-4094. Press Done to save or press Cancel to return to previous menu.



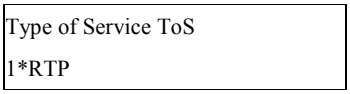

Port 1

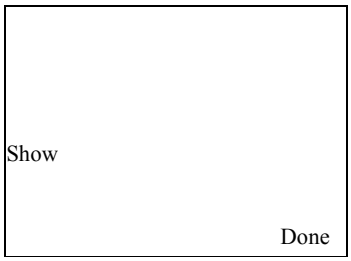
Enter VLAN Priority and enter ID number range from 1-4094. Press Done to save or press Cancel to return to previous menu.



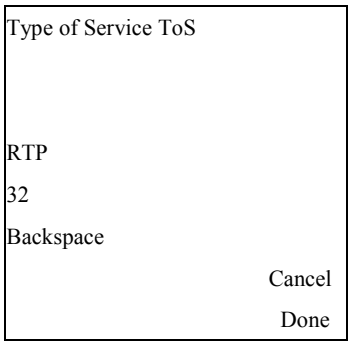
### 3.6.7 Type of Service / DiffServ

Enter Type of Service option and select RTP. Press Done to return to previous screen.





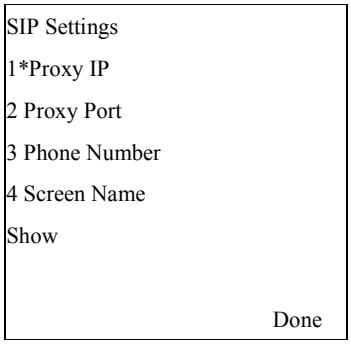

RTP — Enter RTP enter RTP number. Press Done to save or press Cancel to return to previous menu.




## 3.7 SIP Settings

User could configure the following SIP parameters via IP phone UI.

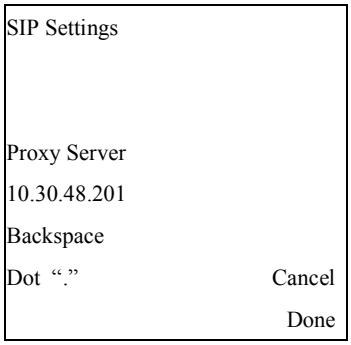
Proxy IP
Proxy Port
Phone Number
Screen Name
Auth. Name
Auth. Password
RTP Port Base



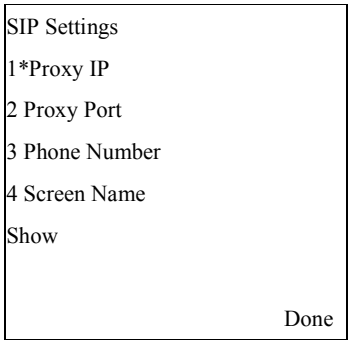

Note: Before access SIP setting option, administrator password is required. Only Line 1 parameters are modified.

### 3.7.1 Proxy IP

Enter Proxy IP option and start to setup IP address of Proxy. Press Done to save. Press Cancel to return to previous screen.

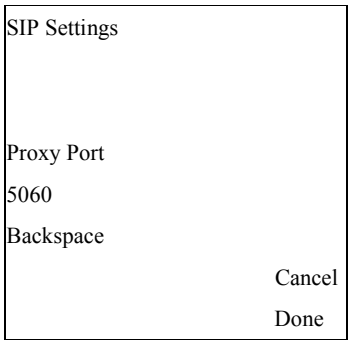



Press Cancel to return to previous menu. Press Done then Restart to restart IP phone.

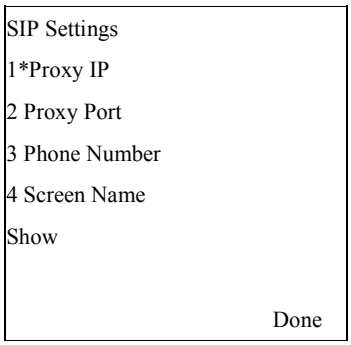


### 3.7.2 Proxy Port

Enter Proxy Prot option and start to setup port number of Proxy. Press Done to save. Press Cancel to return to previous screen.

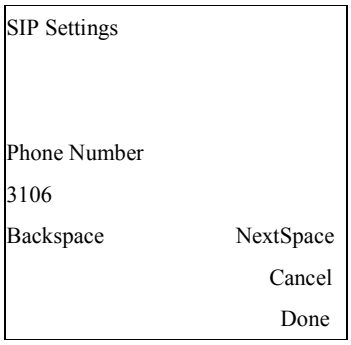



Press Done to return to previous menu. Press Restart to restart IP phone.

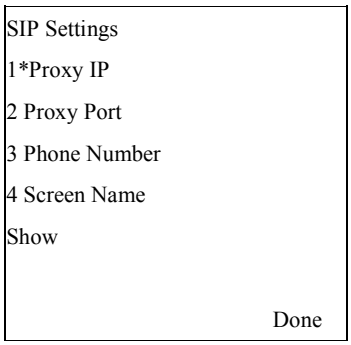


### 3.7.3 Phone Number

Enter Registrar Server option and start to setup IP address of Registrar server. Press Done to save. Press Cancel to return to previous screen.

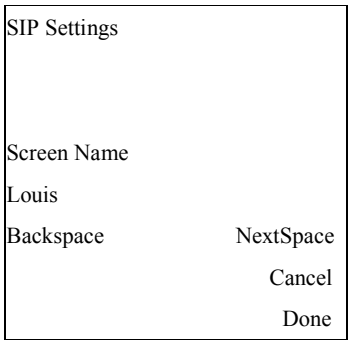



Press Done to return to previous menu. Press Restart to restart IP phone.

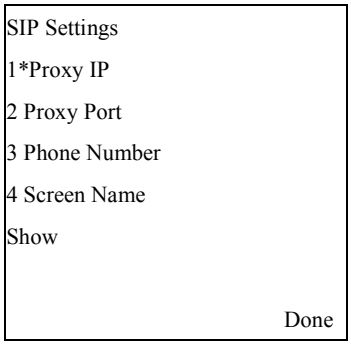


### 3.7.4 Screen Name

Enter Screen Name option and start to setup display name. Press Done to save. Press Cancel to return to previous screen.

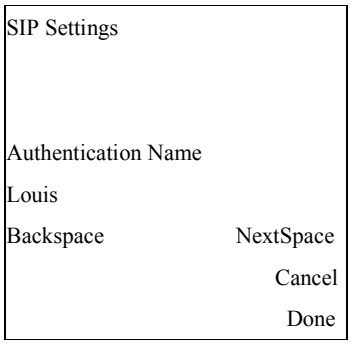



Press Done to return to previous menu. If Screen Name has been changed, Restart message will show on the lcd screen. Press Restart to restart IP phone.

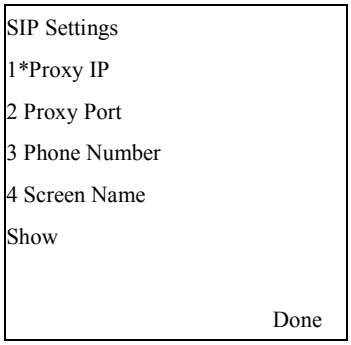


### 3.7.5 Authentication Name

Enter Authentication Name option and start to setup authentication name. Press Done to save. Press Cancel to return to previous screen.

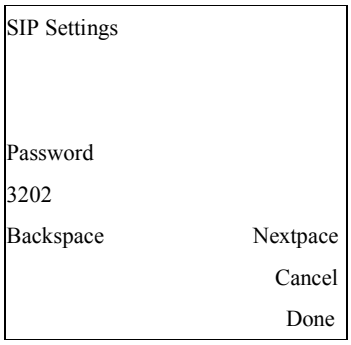



Press Done to return to previous menu. If Authentication Name has been changed, Restart message will show on the lcd screen. Press Restart to restart IP phone.

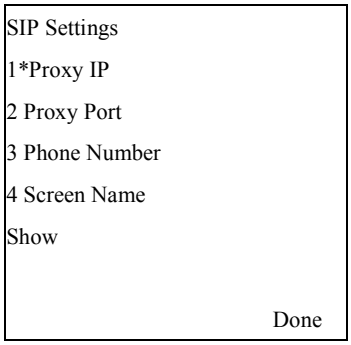


### 3.7.6 Authentication Password

Enter Password option and start to setup Password. Press Done to save. Press Cancel to return to previous screen.

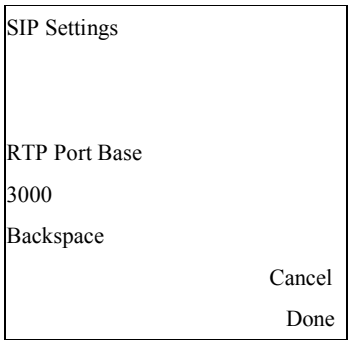



Press Done to return to previous menu. If Password has been changed, Restart message will show on the lcd screen. Press Restart to restart IP phone.

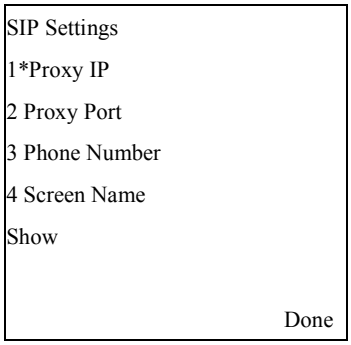


### 3.7.7 RTP Port Base

Enter RTP Port Base option and start to setup the base number of RTP port. Press Done to save. Press Cancel to return to previous screen.

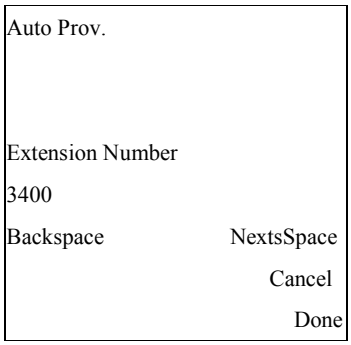



Press Done to return to previous menu. If RTP Port Base has been changed, Restart message will show on the lcd screen. Press Restart to restart IP phone.



### 3.7.8 Auto Prov.

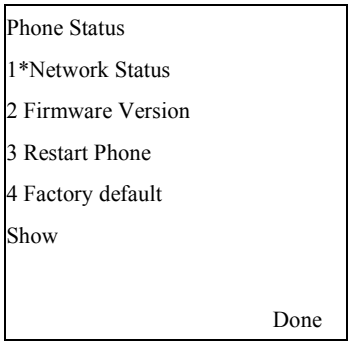
Enter Auto Prov. option starts the auto-provision process. Current implementation works with some Asterisk IP PBXs, such as IP1000, and IP1500 soon.




Press the desired extension number, 3400 in this example, and press Done key. The auto-provision process starts negotiating with the PBX for establishing a correct extension.

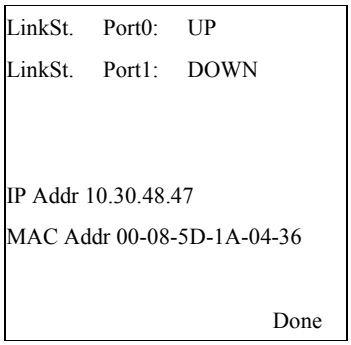
## 3.8 Phone Status

User can check Network Status/Firmware version, restart IP phone, and restore factory default in this option.



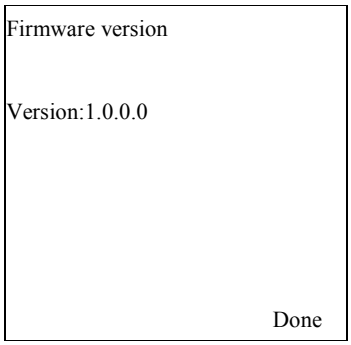

### 3.8.1 Network Status

Enter Network Status option to view the status of IP phone.



### 3.8.2 Firmware Version

Press Firmware Version soft key to view firmware version of IP phone

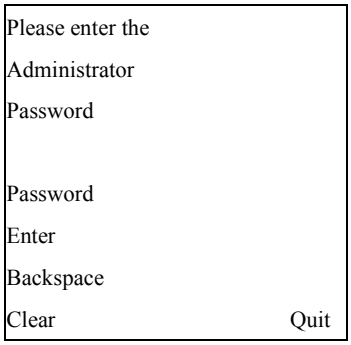



### 3.8.3 Restart Phone

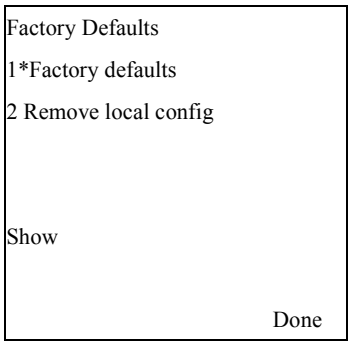
Enter Restart Phone menu. Press Restart soft key to restart IP phone.

### 3.8.4 Factory Default

Enter the administrator password before restore IP phone to default.

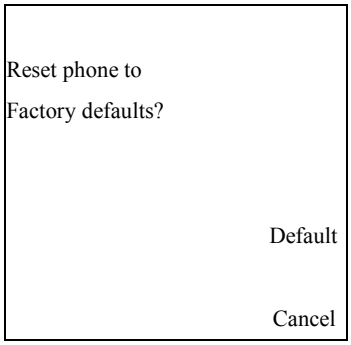


Select Factory defaults to restore or Remove local config to restore.

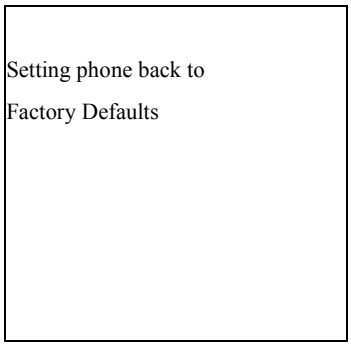


**Restore to Factory Defaults**

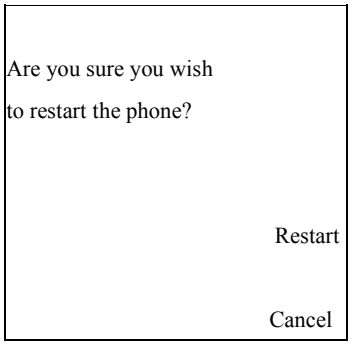
Factory defaults — Press Default soft key.




Reset phone to factory defaults then wait for timeout to return to Restart page.



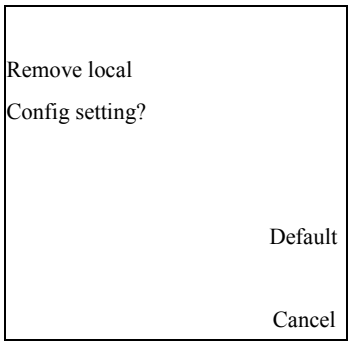

After timeout — Press Restart soft key to restart IP phone or Cancel soft key to return to previous menu.



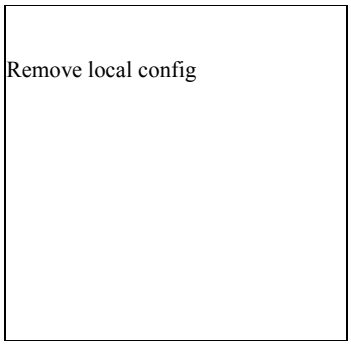

**Remove Local Config**

Remove local config

By pressing Default soft key.




Removed phone back to local config then wait for timeout to return to Restart page.



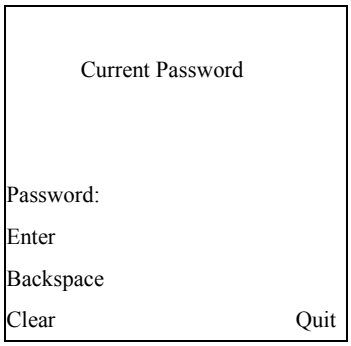

After timeout

Press Restart soft key to restart IP phone or Cancel soft key to return to previous menu.

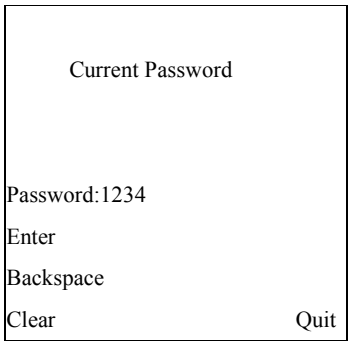
## 3.9 Password

User can change user's password in this option.

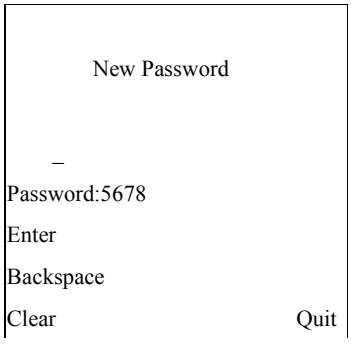
Select User Password option.



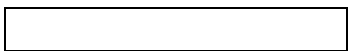

Old Password — Enter old password, then press Enter soft key to confirm.

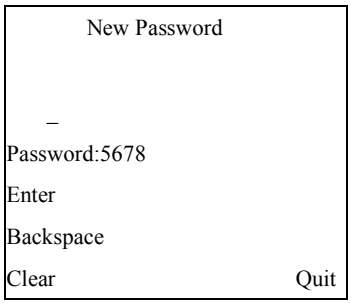


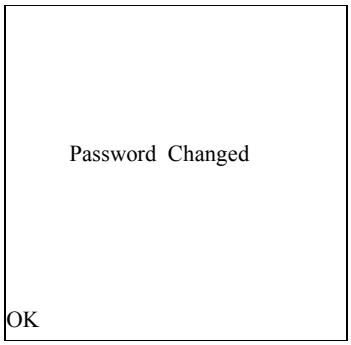

New Password — Enter new password, then press Enter soft key.




Re-enter Password — Re-enter new password again, the press Enter. "Password Changed" will show on the screen for a few seconds then return idle state.

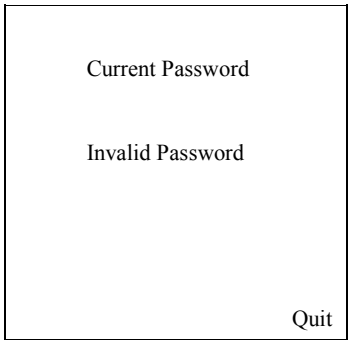


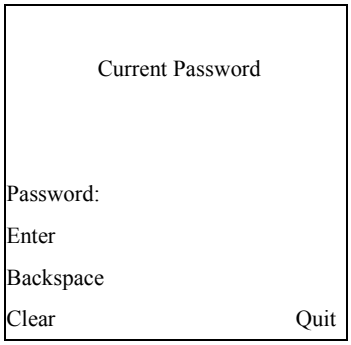



Wrong Password

If Enter wrong password, then press Enter soft key to Re-enter password again. If Re-enter wrong password, then it will be showed Invalid Password and system will auto return to previous menu

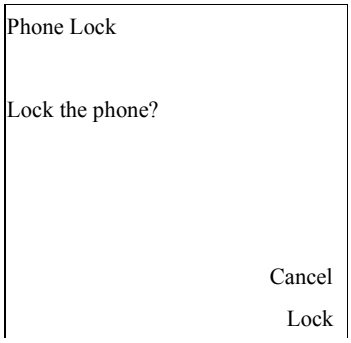


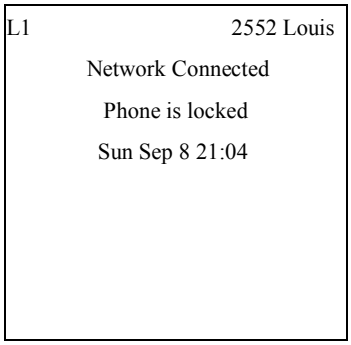
## 3.10 Phone Lock

User can enable Phone Lock function in this option.

Select Phone Lock option. Press Lock to lock the IP phone and return previous screen, or press Cancel to return previous screen.



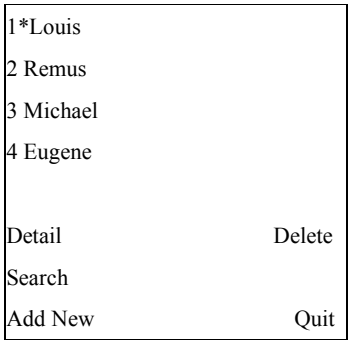

LCD screen shows phone is locked in idle mode




## 3.11 PHONE BOOK

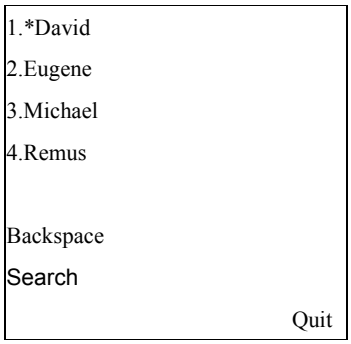
User can press “PHONE BOOK” predefined key to access or edit phone book of the IP phone.

Press PHONE BOOK key to enter phone book mode and press up or down key to look for each user



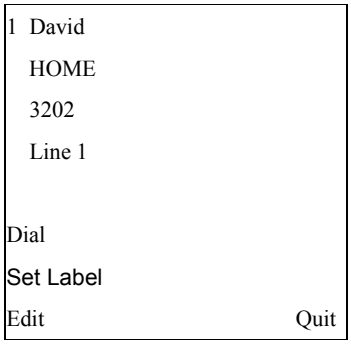

**Search**

Press Search soft key to look up. Enter first digit to search in phone book list & Phone book list will be shown in order. “Searching…” appears when searching is in progress. Press Quit to return previous screen.

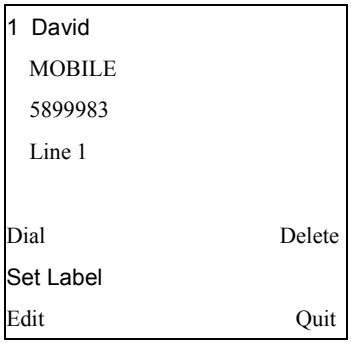



**Detail**

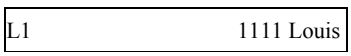
If any entry found — Press Detail soft key to access this item. Press Quit to return previous screen.

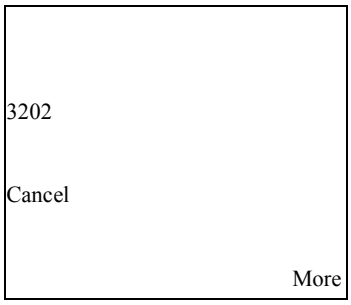



Press left/right navigation key — To change the attribute of the record, either HOME, OFFICE or MOBILE is available for the attribute. Press Set Label to set it.



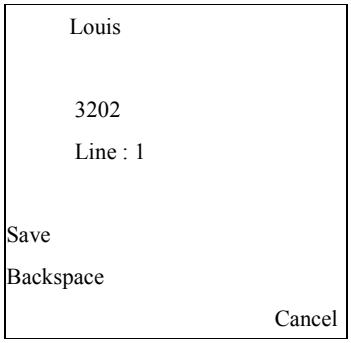

Dial out — Press Dial soft key to dial out.



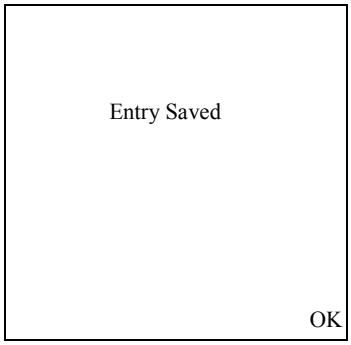



Edit

Press Edit soft key to edit current entry. Press up/down navigation key to edit name, phone number, access line.

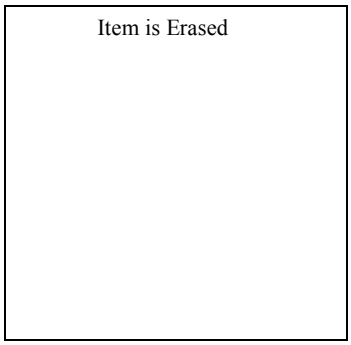



Press Save soft key to save this entry. Press OK soft key to return phone book list menu.



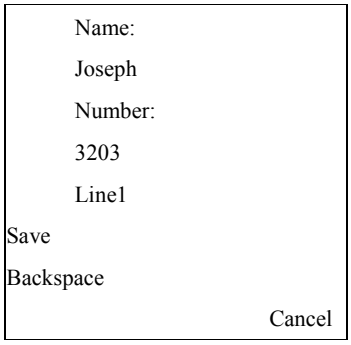

**Delete**

Press Delete soft key to delete the selected entry.

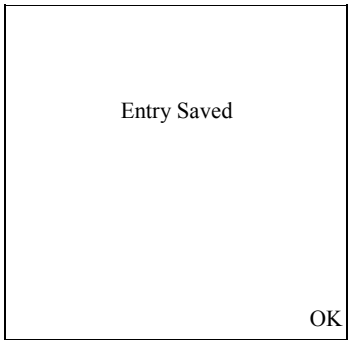



**Add New**

Press Add New soft key to add a new phone book entry. Use up and down navigation key and keypad to edit name, number and line.



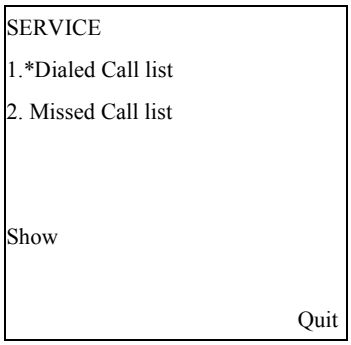

Save new entry — Press Save soft key to save the new entry. And press OK to return phone book menu.




## 3.12 Service

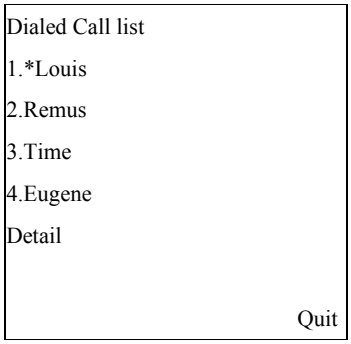
User can press SERVICE predefined key to access Dialed Call list and Missed Call list.

Press SERVICE key — Dial Call list and Miss Call list are shown on the IP phone screen.

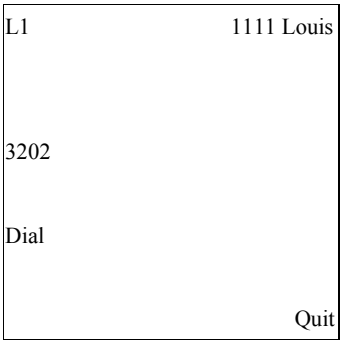



### 3.12.1 Dialed Call list

Select Dialed Call list option



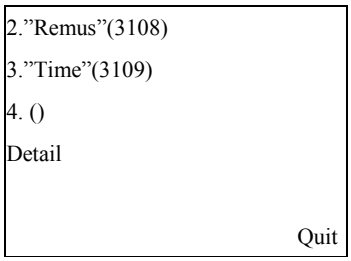

Dial out — Press Dial soft key to dial out and wait for remote answer. Press Quit soft key to return previous screen.



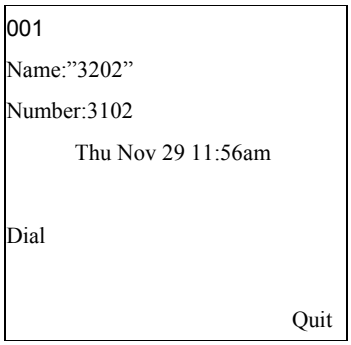

### 3.12.2 Missed Call list.

Select Missed Call list option

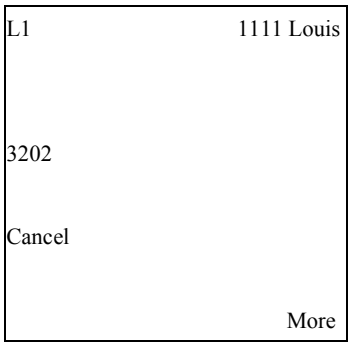
Note: No missed call can be showing if no CID detected




**Detail** Press Detail soft key to see detail information. Press Quit soft key to return previous screen.




Dial out Press Dial soft key to dial out and wait for remote answer.



# 4.Soft Key

## 4.1 Programmable functions

SP550 supports up to 10 programmable functions to soft keys which are explained as following:

| Soft key function | *Description* |
|---|---|
| None | Indicates pressing the softkey will do nothing. |
| Speeddial | Indicates pressing the softkey will automatically dial a pre-defined series of digits for a fast dial. |
| Do Not Disturb (DND) | Indicates pressing the softkey will enable/disable "do not disturb" feature. |
| BLF | Indicates the softkey is configured for Busy Lamp Field use. |
| Last Call Return (LCR) | Indicates the softkey is set to be as a "last call return" key. |
| **Park** | Indicates the softkey is set to be a park key to park a call. |
| Call retrieve | Indicates the softkey is set to retrieve a parked call |
| Call pickup | Indicates the softkey is set to be pickup key to pick up ringing call in the same group. |
| Intercom | Inicates the softkey is set to dial an auto-answer call, the destination extension number must follow. |
| Prefix | Indicates the softkey is set to dial a series of pre-defined digits and waits users to dial the extension. This is usually used to dial the server-specific string of digits for some specific services. |

### 4.1.1 DND

**DND:** When user press DND soft key to enable/disable "Do not Disturb", the LED of soft key will be turn on/off and the color is green.

### 4.1.2 Busy Lamp Field

The BLF feature on the IP phone allows a specific extension to be monitored, dialed and picked up for different states. BLF monitors the status (ringing, busy or idle) of extensions on the IP phone. The LED status of BLF soft key is shown as follows:

| Activity | Light |
|---|---|
| **Idle** | Off |
| Busy | On |
| Ringing | blinking |

User can use the BLF soft key to dial out if the remote extension is idle. User can use the BLF soft key to pick up the call if the remote extension is ringing.

## 4.2 State-Based Soft Keys

On SP550 soft keys, user can configure a specific state to display when a soft key is being used. Available states you can configure for each soft key include:

- **Idle**
- **Connected**
- **Incoming**
- **Outgoing**

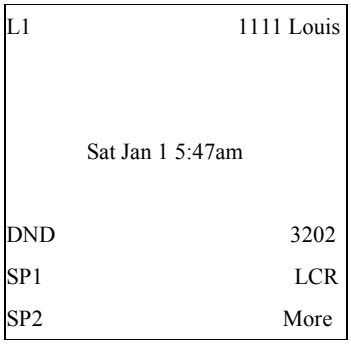
The following table identifies the applicable default states for each soft keys type on the IP phone.

| Soft key type | ***Default States*** |
|---|---|
| None | All states disabled |
| Speed dial | Idle, connected, incoming, outgoing, |
| Do Not Disturb (DND) | Idle, connected, incoming, outgoing, |
| BLF | Idle, connected, incoming, outgoing, |
| **Last Call Return (LCR)** | Idle, |
| Park | Connected, |
| Call retrieve | **Idle,** |
| Call pickup | Idle, incoming, |
| Intercom | Idle, outgoing |
| Prefix | Idle, connected, |

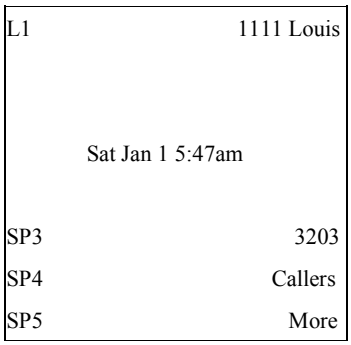
Table 4.1

### 4.2.1 Idle state

Idle state : The phone is not being used. Check table 4.1 to see which types of soft key work in this state. User can press More soft key to switch soft key page if more than 5 soft key are defined via Web UI.



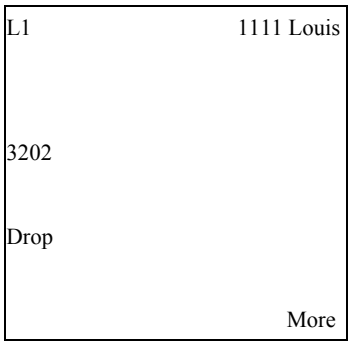

| | |
|---|---|
| Press More | Press More soft key to switch soft key page. |



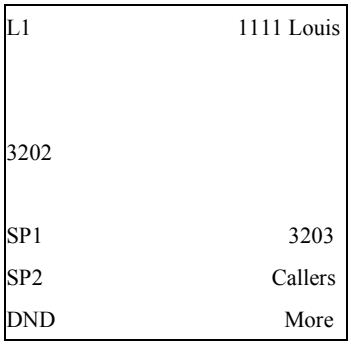
### 4.2.2 Connected state

Connected state: The current line is in an active or the call is on hold.

Check table 4.1 to see which types of soft key work in this state. Predefined soft keys will show on this state first, press More soft key to show Stated-Based soft keys.



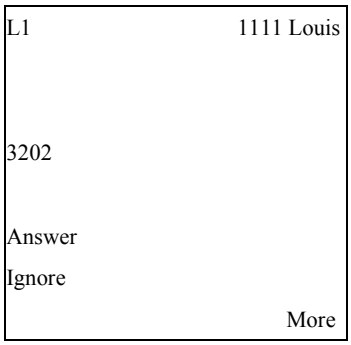

Press More  Press More soft key to switch soft key page.



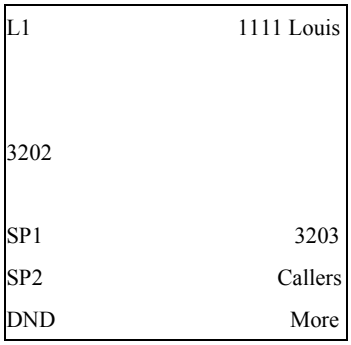
### 4.2.3 Incoming state

Incoming state: The phone is ringing.

Check table 4.1 to see which types of soft key work in this state. Predefined soft keys will show on this state first, press More soft key to show Stated-Based soft keys.



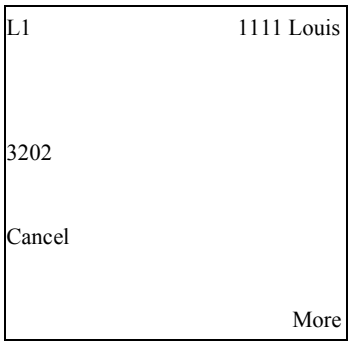

| | |
|---|---|
| Press More | Press More soft key to switch soft key page. |



### 4.2.4 Outgoing state

Incoming state: The far-end is ringing.

Check table 4.1 to see which types of soft key work in this state. Predefined soft keys will show on this state first, press More soft key to show State-Based soft keys.




Press More  Press More soft key to switch soft key page.